

American Cinematographer

ALI

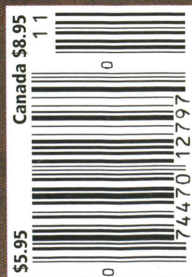
STINGS LIKE A BEE

THE ONE

BLENDS MARTIAL ARTS AND SCI-FI

TV'S ENTERPRISE

TREKS BACK IN TIME





You can't live forever, but your work can come close. When stored under proper conditions, processed film can have a shelf life of as much as 600 years. In fact, it's the only recognized archival medium there is. The inherent characteristics of film technology keep it compatible with display formats everywhere. So, as your creative vision endures, so will the value of your initial investment. And your work will have as much power to move audiences in the future as it does today.



FILM CAN LAST HUNDREDS OF YEARS IN THE VAULT

LIFE

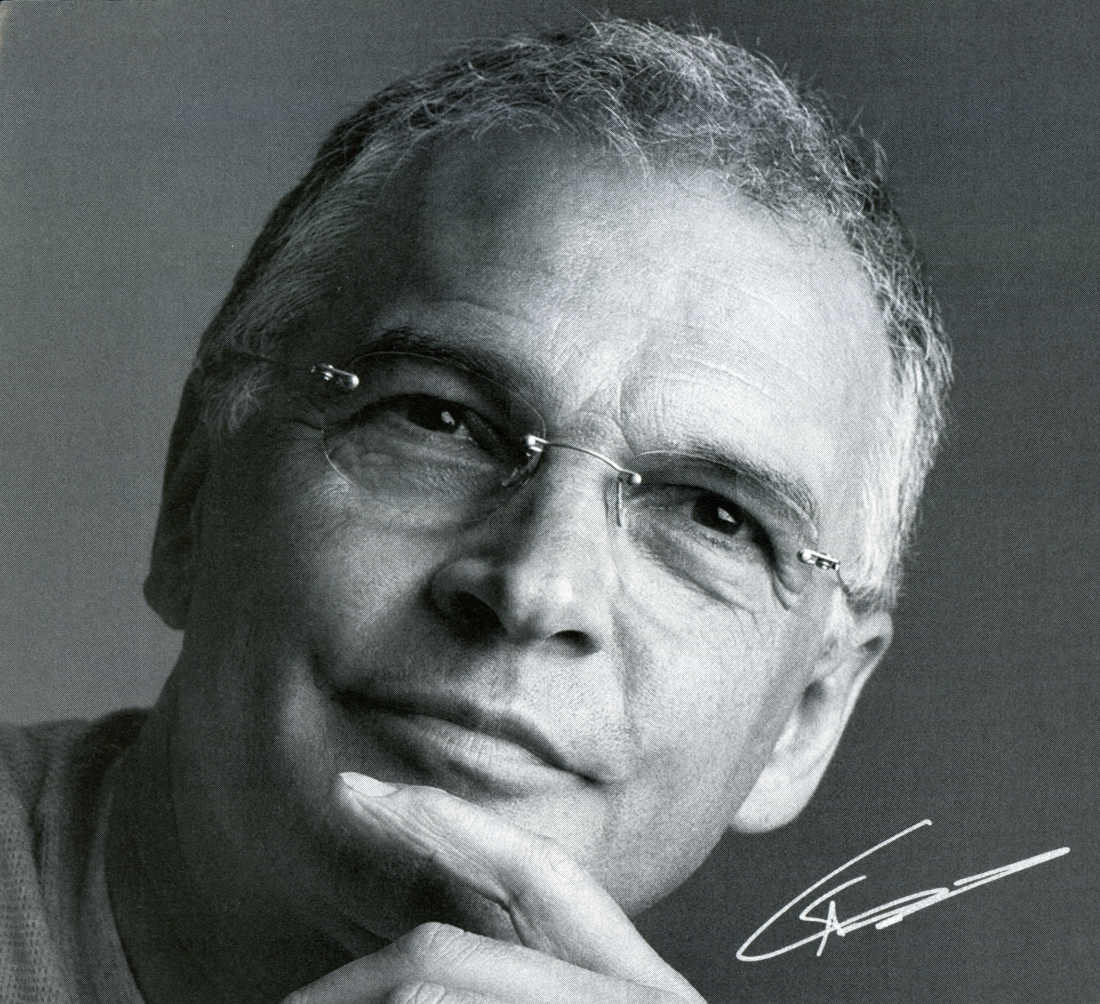
AND FOREVER IN THE MEMORY

Choose your origination medium wisely.

Visit www.kodak.com/go/story for the whole story.

there's more to the story™





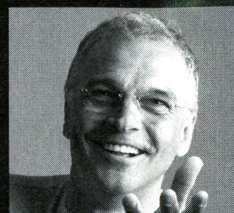
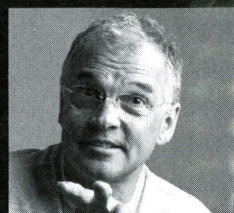
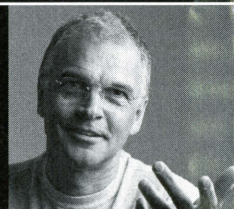
THEO VAN DE SANDE, ASC

ONFILM

"Movies are reflections of light coming from a two-dimensional screen — just static flashes of light and color interrupted by short moments of darkness. These impulses manipulate the brain to experience the emotions of a story and its characters, and that's a form of magic. Every time I set up a shot, I'm making a moral commitment to the director and audience. The subtlest things can influence the perception of the audience. When people start telling me how wonderful the first dailies look, I feel a bit sad because the emotional experience of the audience has now become a reality. It takes the place of the magic — the imaginary world I created in my head."

Theo Van de Sande, ASC has shot over 45 feature films in Europe and the United States, including *The Assault*, which earned an Oscar® for Best Foreign Feature. He won Golden Calf Awards in 1982 and 1987, Holland's highest honor for a cinematographer's work. His U.S. credits include *Crossing Delancey*, *Miracle Mile*, *Wayne's World*, *Volcano*, *Blade*, *Cruel Intentions*, *Tuesdays with Morrie* (TV), *Big Daddy*, *High Crimes*, and such acclaimed documentaries as *It Was a Wonderful Life* and *Colors Straight Up*, directed by his wife Michele Ohayon.

For an in depth interview with Theo Van de Sande, visit the Kodak website at www.kodak.com/go/onfilm



American Cinematographer

The International Journal of Film & Digital Production Techniques

Features

- 34 **Ring Leader**
Ali examines the life of an international icon
- 50 **The Ultimate Self-Destruction**
A hero battles his dark side in *The One*
- 66 **The Final Frontier**
Enterprise takes the *Star Trek* franchise back in time
- 74 **Fighting Back**
NBC's *Uprising* salutes the Jewish freedom fighters of World War II
- 82 **Stylish TV Signals**
A list of this year's Emmy-nominated cinematographers
- 84 **Special Report: Protecting Our Heritage**
AC examines Hollywood's ongoing effort to preserve and restore moving images
- 86 **The State of the Art**
Studios report on their progress
- 98 **Second Chances**
Cinematographers strive to save their work
- 102 **The Learning Curve**
Labs and storage facilities develop new methods



On Our Cover:

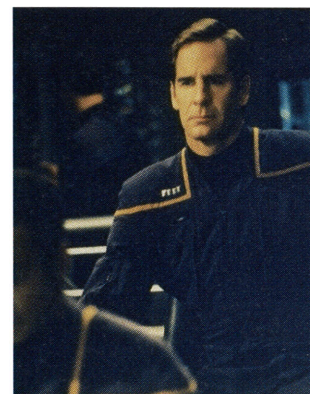
Heavyweight champion Muhammad Ali exults after defeating an opponent in the epic biopic *Ali*, directed by Michael Mann and shot by Emmanuel Lubezki, ASC, AMC (photo by Frank Connor, courtesy of Sony Pictures).

Contributing Writers:

Stephanie Argy
Richard Crudo, ASC
Bob Fisher
David Heuring
Jay Holben
John Pavlus
Jon Silberg



50



66

Departments

- 10 Editor's Note
12 The Post Process
16 DVD Playback
24 Production Slate
111 Short Takes
117 New Products & Services
123 Points East
125 Books in Review
127 Living Pictures
128 Classified Ads
132 Ad Index
134 Filmmakers' Forum
136 Wrap Shot



74

Visit us online at

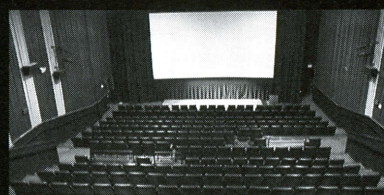
www.cinematographer.com

the best **faculty**
the best **facilities**
the best **graduates**



**oscar winning and nominated
advisory board and faculty
Donn Cambern**

Editing Faculty
Editor, *Easy Rider*, *Romancing the Stone*
President, Editors Guild



**state of the art facilities
our theater features:**

THXcertified, Dolby Digital Surround EX
Sound, 345 stadium style seats, dual
system projection., HD Projector,
DVCAM, MiniDV, fi, BetaSP,
DigiBeta, VHS, HDCAM, 35mm and
16mm. **industry rentals available.**

our graduates are
**directing producing shooting
feature films.**
Alumni updates available on website

**forty week
immersion
program**

starts every 2 months

**6 week digital
film intensives**

**part time and
evening classes**

THE
LOS ANGELES
FILM
SCHOOL

323.860.0789

www.lafilm.com

6363 sunset blvd.
hollywood, ca

November 2001 Vol. 82, No. 11
The International Journal of Film & Digital Production Techniques • Since 1920

American
Cinematographer

Visit us online at
www.cinematographer.com

PUBLISHER Jim McCullaugh

EDITORIAL

EXECUTIVE EDITOR Stephen Pizzello
SENIOR EDITOR Rachael K. Bosley
ASSOCIATE EDITOR Douglas Bankston
TECHNICAL EDITOR Christopher Probst
POSTPRODUCTION Debra Kaufman
VISUAL EFFECTS Ron Magid
TELEVISION Jean Oppenheimer
DVD REVIEWS Chris Pizzello
EAST COAST Eric Rudolph
BOOK REVIEWS Ray Zone

ART DIRECTION

CREATIVE DIRECTOR Martha Winterhalter
ART DIRECTOR Marion Gore

ADVERTISING

DIRECTOR OF NEW BUSINESS DEVELOPMENT, WORLDWIDE Dianna Hightower
TOLL FREE 866-909-4617 818-909-4617 FAX 818-909-4626
e-mail: dhightower03@earthlink.net
ADVERTISING ACCOUNT MANAGER Angie Gollmann
323-936-3769 FAX 323-936-9188
e-mail: gollmann@pacbell.net
ADVERTISING ACCOUNT MANAGER Michael Trerotoli
203-761-9804 FAX 203-761-0090
e-mail: trerotoli@aol.com
CLASSIFIEDS/ADVERTISING COORDINATOR Sanja Djukelic

CIRCULATION, BOOKS & PRODUCTS

CIRCULATION DIRECTOR Saul Molina
CIRCULATION ASSISTANT Marvin Lopez

ASC EVENTS COORDINATOR Patricia Armacost
ASC ADMINISTRATIVE ASSISTANT Becca Allen
ASC ACCOUNTING MANAGER Mila Basely
ASC STAFF ACCOUNTANT Diella Peru

Publications Advisory Committee

Steven B. Poster, Chairman
Richard Crudo, Chairman
James Bagdonas, John Bailey, Russell P. Carpenter, Curtis Clark,
Dean R. Cundey, Allen Daviau, Roger A. Deakins, Ron Garcia, James Glennon,
Robbie Greenberg, John C. Hora, Johnny E. Jensen, Stephen Lighthill, Lowell Peterson,
Aaron Schneider, Newton Thomas Sigel, Sandi Sissel, Bing Sokolsky, Dante Spinotti,
John Toll, Kenneth D. Zunder

American Cinematographer (ISSN 0002-7928) established 1920 in 82nd year of publication is published monthly in Hollywood by ASC Holding Corp., 1782 N. Orange Dr., Hollywood, CA 90028, U.S.A., (800) 448-0145, (323) 969-4333, Fax (323) 876-4973, direct line for subscription inquiries (323) 969-4344. Subscriptions: U.S. \$40; Canada/Mexico \$60; all other foreign countries \$75 a year (remit international Money Order or other exchange payable in U.S. \$). Advertising: Rate card upon request from Hollywood office. Article Reprints: Request for 100 or more high-quality article reprints should be made to Reprint Management Services at (717) 560-2001. Copyright 2001 ASC Holding Corp. (All rights reserved.) Periodicals postage paid at Los Angeles, CA and at additional mailing offices. Printed in the USA. POSTMASTER: Send address change to *American Cinematographer*, P.O. Box 2230, Hollywood, CA 90078.



A NEW WAY TO LOOK AT 24P

Sony Pictures High Definition Center

24P On-line Editing / daVinci 2K Color Correction / High Definition Telecine / Digital Cinema

Digital Image Restoration for DVD Mastering / Film Recording

For your next project, contact Deanna Migdal at 310-244-7433.



SONY PICTURES
HIGH DEFINITION CENTER

www.sphdc.com

Synchronizes film cameras to monitors, projectors, or other cameras

FILM/VIDEO SYNCHRONIZING CONTROL

- Synchronizes and removes scan line on computer / video monitors while filming.
- Synchronizes film cameras to projected images.
- Synchronizes multiple cameras 15-120 fps.
- Signal Pick-Up eliminates hard wire connection to monitor.
- Automatic phasing and phase adjustment knob.
- Automatic camera recognition and compatibility with Arriflex, Panavision, Aaton, and more.

CINEMATOGRAPHY
electronics

5321 Derry Avenue, Suite G • Agoura Hills, California 91301 • USA • Phone (818) 706-3334 • Fax (818) 706-3335



American Society of Cinematographers

The ASC is not a labor union or a guild, but an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as directors of photography and have demonstrated outstanding ability. ASC membership has become one of the highest honors that can be bestowed upon a professional cinematographer — a mark of prestige and excellence.

OFFICERS

Victor J. Kemper
President

Laszlo Kovacs
Vice President

Russell P. Carpenter
Vice President

Vilmos Zsigmond
Vice President

Robert Primes
Treasurer

John C. Hora
Secretary

Dean R. Cundey
Sergeant-at-Arms

MEMBERS OF THE BOARD

Stephen H. Burum
Russell P. Carpenter
Dean R. Cundey
Allen Daviau
Roger Deakins
William Fraker
John C. Hora
Victor J. Kemper
Laszlo Kovacs
Steven B. Poster
Robert Primes
Owen Roizman
John Toll
Haskell Wexler
Vilmos Zsigmond

ALTERNATES

George Spiro Dibie
Richard Edlund
Gerald Perry Finnerman
Robbie Greenberg
Robert F. Liu

MUSEUM CURATOR

Steve Gainer

Visit Glidecam on
the INTERNET at
www.Glidecam.com



1-800-600-2011
1-800-949-2089
1-508-830-1414
or Fax us at
1508-830-1415

THE NAME AND FUTURE OF CAMERA STABILIZATION.™

**EXPERIENCE THE MAGIC OF SUPER SMOOTH SHOTS
WITH A GLIDECAM CAMERA STABILIZER.™**



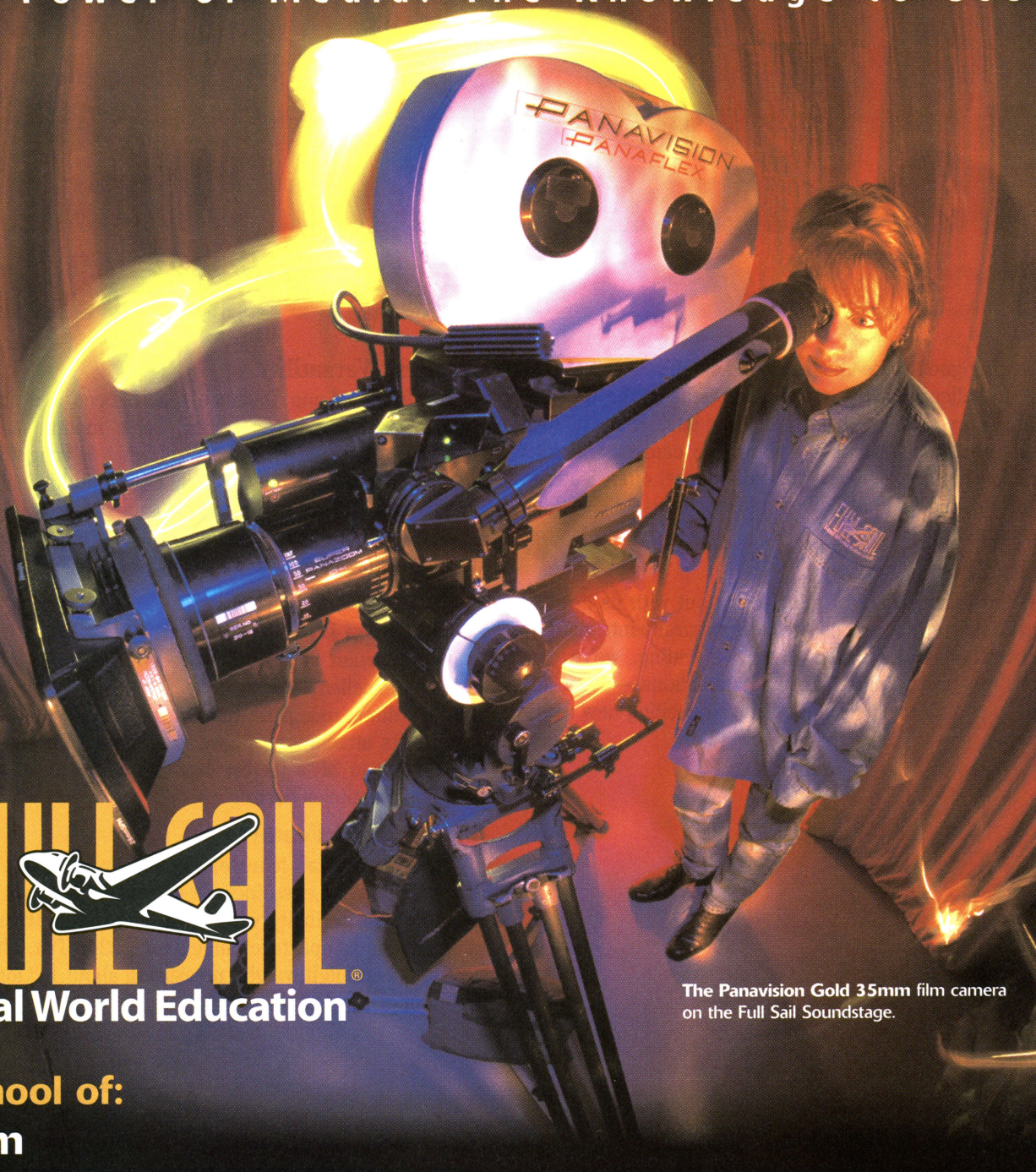
GLIDECAM offers the most versatile and affordable line of
Camera Stabilization Systems in the World.

Glidecam continues to offer unparalleled customer service and
product quality for more than 8 years.

"Leasing to own" is available. Glidecam has over a hundred Dealers worldwide.

Glidecam is Registered at the Patent and TM office. Copyright 2000 Glidecam Industries, Inc. All Rights Reserved.

The Power of Media. The Knowledge to Use It.SM



FULL SAIL
Real World Education

The Panavision Gold 35mm film camera
on the Full Sail Soundstage.

School of:
Film
Audio
Digital Media
Game Design
Computer Animation
Show Production & Touring

800.226.7625
www.fullsail.com

- Financial aid available to those who qualify
- Job placement assistance
- Accredited by ACCSCT

3300 University Boulevard • Winter Park, FL 32792

©2001 Full Sail, Inc. All rights reserved. The terms "Full Sail," "Full Sail Real World Education," and the Full Sail logo are either registered service marks or service marks of Full Sail, Inc. Other product and company names mentioned herein may be the trademarks of their respective owners. The appearance of these marks does not necessarily indicate a formalized sponsorship or affiliation with other such companies.

LONG RANGE

Our InfinFX K2 Long Distance Provide Big Images With Room

Getting good close-up shots of small objects has always been a challenge. With most macro lenses, the working distances are so short that lighting the subject has its own set of problems —amplified when the camera and lens block key lighting angles. This, of course, often leads to compromising the shot by being forced to use a less-than-ideal lighting solution.

An Exciting Discovery

When Infinity Photo Optical came out with its new K2 Long Distance Macro lens, we were naturally intrigued by the possibilities. And after extensive testing, we're convinced they are a "must" for many situations —especially tabletop commercial work. It's truly an exciting new development!

Excellent Versatility

The Infinity Long Distance Macro Lens is a modular system consisting of an optical basic module and five attachment lenses. These will provide a magnification range of 0.3x to 10x (you find that kind of multiplication on a microscope!), with a working distance of 2000mm (about 6.5 feet) to 48mm (about 2 inches). At a 24" range you have the 1:1 image common to most Macro lenses —but from a much farther distance.

Outstanding Optical Quality

It's important to note that the optical quality of these lenses is excellent. We've done a little test, shooting an ordinary dime, using the Infinity InfinFX K2 module and three of its attachment lenses (standard, CF2 and CF4). The old adage of "a picture is worth a thousand words" pretty much applies here.

All The Right Features

Other technical features of the InfinFX K2 Long Distance Macro Lense include provisions for two filters, mounting compatibility with most 35mm and 16mm film cameras, and an aperture range from T22 to T64. The lens is compact and lightweight, measuring about 14" long and weighing just over 3 lbs.



InfinFX K2™
by INFINITY

CLOSE-UPS...

Macro Lenses To Spare



1x



4x



10x

Expand Your Creativity

We're confident that when you use this versatile lens package it will expand your creative horizons and deliver footage that is superior to what's possible using ordinary Macro lenses. Best of all, you'll have many more lighting options because you can operate from longer distances. And with T-stops all the way to T64, the depth of field can be exceptional. We predict that the InfinFX K2 Long Distance Macro Lens will enable cinematographers to establish new standards for production quality. We invite you to investigate the possibilities for yourself.

TECHNICAL SPECIFICATIONS FOR INFINITY K2 LONG DISTANCE MACRO LENS AND MODULES

	Standard Lens	CF1 Attachment	CF2 Attachment	CF3 Attachment	CF4 Attachment
WORKING DISTANCE	400-2000mm (15' to 78")	300-700mm (12' to 28")	150-220mm (6" to 9")	100-130mm (4" to 5")	48-58mm (2" to 2.3")
MAGNIFICATION	1.6x to 0.3x	2.1x to 0.8x	3.9x to 2.4x	5.3x to 3.9x	10.0x to 7.8x

CLAIRMONT
CAMERA
FILM & DIGITAL

HOLLYWOOD
818-761-4440

TORONTO
416-467-1700

VANCOUVER
604-984-4563

Visit our website: www.clairmont.com

ALBERTO VILAR
GLOBAL FELLOWS
IN THE
PERFORMING ARTS

at New York University

INITIAL OFFERINGS

Acting

Dance

Design

Dramatic Writing

Filmmaking

Instrumental Performance:
Piano and Woodwinds

Jazz

Music Technology

Music Theatre: Performance and Writing

Musical Composition

Cross-Disciplinary

The Vilar Global Fellowship brings together exceptionally talented students in the performing arts from around the world to study at NYU and work with world-class artists from prominent New York City institutions.

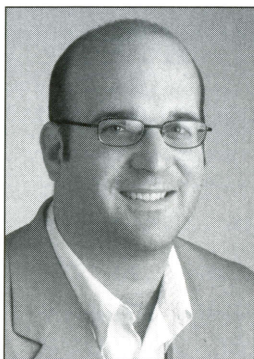
A \$40,000 a year stipend for two years of graduate education includes tuition, housing, and travel expenses.

For more information, visit

www.nyu.edu/vilar/film

New York University is an affirmative action/equal opportunity institution.

Editor's Note



As this issue went to press, the world was awaiting the United States' response to the devastating September terrorist attacks in New York and Washington. The prime suspects were Islamic extremist Osama Bin Laden and his followers, who have declared a *jihad*, or "holy war," against the U.S.

Thankfully, President Bush, the media and most sensible people have drawn a crystal-clear distinction between peace-loving Muslims and terrorists who subvert the principles of Islam. The subject of this month's cover story, Muhammad Ali, has embraced Islam for the past 35 years, and his

own comments on the terrorist attacks echo the sentiments of most Muslims around the globe: "I am a Muslim," he told *The New York Times*. "I am an American. If the culprits are Muslim, they have twisted the teachings of Islam. Whoever performed, or is behind, the terrorist attacks in the United States does not represent Islam. God is not behind assassins."

A product of the turbulent Sixties, Ali has seen his share of assassinations and other despicable acts, and he's frequently used his global influence to promote the cause of peace and to battle ethnic prejudice. The seeming conflict between his chosen trade of boxing and his condemnation of violence is just one facet of this fascinating man, who certainly warrants the cinematic scrutiny he receives in the new biopic from director Michael Mann. Shot by Emmanuel Lubezki, ASC, AMC, *Ali* explores not only this international icon and his philosophies, but also the era in which he occupied the spotlight. Our coverage ("Ring Leader," page 34) details the methods the filmmakers used to achieve Mann's goal of scrupulous realism.

Realism and heroism are also on display in the NBC miniseries *Uprising* ("Fighting Back," page 74), which hails the Jewish freedom fighters who defied their Nazi oppressors during World War II. The star-studded saga was directed by Jon Avnet and shot by Denis Lenoir, AFC — with able assistance from AC technical editor Christopher Probst, who served as a camera operator on the show. (Probst also helped fellow AC freelancer Jay Holben shoot the short film *Paranoid*, which is featured in this month's Short Takes column.)

For those of you who prefer to escape from realism in this time of strife, *The One* (shot by Rob McLachlan, CSC) and the new *Star Trek* series *Enterprise* (shot by Marvin Rush, ASC) also present virtuous characters triumphing over villainy.

Additionally, this issue of AC offers a list of this year's Emmy nominees for cinematography, as well as a 25-page special report that examines the ongoing effort to preserve and restore the art of moving images.

Sincerely,

Stephen Pizzello
Executive Editor

e-mail: stephen@theasc.com

THE 16TH ANNUAL ASC AWARDS



Photo by Marvin A. Lopez. Designed by Edwin Albanian

FEBRUARY 17, 2002 • THE CENTURY PLAZA HOTEL • LOS ANGELES, CALIFORNIA

CAMERA CASES

www.portabrace.com



Smuggler . . . Fits airline requirements



Rain Slicker . . . Fool proof protection



Shoulder Case . . . Lightly padded



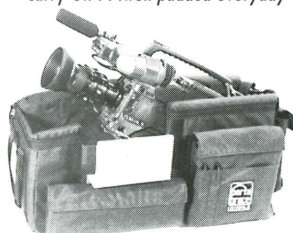
Shoulder Case
... with rainproof



Polar Bear
... for extreme cold



Carry-On . . . well padded everyday case



Quick-Draw . . . hard shell case



K & H Products, LTD.

Box 249
North Bennington
Vermont 05257 USA
www.portabrace.com
PHONE: 802-442-8171
FAX: 802-442-9118

The Post Process

Siggraph 2001 Expands the Visual Vista

by Debra Kaufman

During this past year, films such as *Final Fantasy* and *Shrek* have clearly shown that computer graphics have come of age and that the industry has, after a dizzyingly steep arc, reached a plateau of maturation. That fact, combined with the burst bubble of the dot-coms and the general economic malaise, made for a somewhat underwhelming Siggraph, the industry's annual computer-graphics exposition and conference. Held in Los Angeles in mid-August, Siggraph 2001 featured an exhibit floor with numerous empty spots and noticeably light attendance — 34,024 compared to the "more than 40,000" anticipated.

Still, as with all Siggraphs past, this conference and exposition had some interesting products and technological surprises. In the Electronic Theater, "Rendering Translucent Materials," from Henrik Wann Jensen of Stanford University, demonstrated the results of a new algorithm for measuring light and scattering it judiciously, which gave translucency and therefore a much greater degree of realism to such translucent materials as marble. Another coup for realism came from **The Institute for Creative Technologies**, which unveiled HDR Shop, an image-manipulation program that supports high-dynamic-range images, where brightness levels correspond to actual quantities of light in the real world.

On the exhibit floor, perhaps the most interesting of the recent software advances were those technologies for bridging 2-D and 3-D images. Although American company Synapix was the first to debut such technologies, it's two French companies that have come to the fore. At Siggraph, **2d3** launched version 1.3 of its automated camera-tracker

called *boujou*, which offers new tools for dealing with lens distortion, a batch-processing feature, new scene-geometry capabilities, predictive 2-D tracking and export to Discreet Flame and Inferno.

RealViz introduced automatic Match-Mover, an upgrade of its 3-D camera-tracking application, and previewed the upcoming 3.0 version upgrade to ImageModeler, the first version of this application for Mac users. ImageModeler 3.0 features a new user interface and contextual menus for improved calibration workflow and easier camera navigation. **Synapix** was also at Siggraph, targeting postproduction, designers and game developers with the latest release of SynaMatch 3-D match-moving software and SynaVision scene-reconstruction software.

Motion capture of all types was also greatly in evidence. **Meta Motion** debuted Gypsy Jr., a portable system that will run on Windows NT or 98 and sells for less than \$10,000, while **Ascension Technology Corp.** announced the Reactor, a portable and "affordable infrared active-optical system" featuring support for 3-D Max, Typhoon and Filmbox.

Streamlining the mo-cap process and increasing the usability of the data was also a theme. **Vicon** previewed IQ, an application to streamline mo-cap workflow and improve accuracy when tracking complex interaction between characters, and **Kaydara** introduced its FBX file interchange format initiative, enabling artists to work in a real-time environment for animating and compositing, with Filmbox as the hub for animation created in various packages. **Viewpoint**, **ExpressionTools**, **InSpeck** and **RealViz** have all announced support for FBX.

Motion capture also has become a tool for capturing facial and hand

CINEMATOGRAPHERS GET BEHIND CANON'S HD-EC LENSES.

*Photo taken on the set of Earth:
Final Conflict, a series that switched
from film to digital cinematography.*

HD-EC

FROM MOTION PICTURES TO TELEVISION, CANON GETS HIGH RATINGS.

From the newest Hollywood productions, to television's *Earth: Final Conflict*, Canon's HD-EC lenses have become the standard for digital cinematography. Directors agree that shooting with HD-EC lenses, which have been optimized for EC cameras, offers remarkable imagery. And those who hesitate because "it's video" are amazed when they see the results.

The ideal companion for 24fps and other B-4 mounted cameras, Canon's HJ9X5.5B KLL-SC (5.5-50mm T2.3 macro zoom) and HJ18X7.8B KLL-SC (7.8-144mm T2.5 macro zoom) are the HD-EC lenses cinematographers request. These two film-style lenses, introduced to compliment the line of prime lenses,

incorporate Canon's award-winning optics and years of experience with film and video lenses.

These include zoom, focus and iris rings engraved with large luminous scales and T-stop measurements. Distance scales are marked from the CCD plane. The 0.8 modulus gears on the zoom, focus and iris ring provide compatibility with studio follow focus rigs, manual fluid zoom drives and motorized control systems.



HJ18X7.8B KLL-SC

HJ9X5.5B KLL-SC

For digital cinematography at its highest level, take a look into Canon's HD-EC lenses.

For more info: Call 1-800-321-HDTV

(In Canada: 905-795-2012)

<http://www.canonbroadcast.com>

Maximize Your Camera's Performance.

Canon **KNOW HOW™**

Canon and Canon Know How are trademarks of Canon Inc. ©2000 Canon USA, Inc.

Come visit our showroom or call for our latest Magliner product catalog
We are the largest retailer specializing in Magliner customized products and accessories for the Film and Television Industry in the world



Backstage Equipment, Inc. • 8052 Lankershim Boulevard • North Hollywood, CA 91605-1609 • USA
(800) 692-2787 • (818) 504-6026 • Fax (818) 504-6180 • E-mail backstage@aol.com • www.backstageweb.com

SHOTS THAT WERE ONCE JUST A REMOTE POSSIBILITY ARE NOW A SURE THING WITH THE SCORPIO FOCUS SYSTEM.

Introducing the Scorpio Focus System.

Precise lens focus, iris, and zoom control, a speed aperture control, and a Vertigo Tracking System are available in one easy-to-use package. The Scorpio Focus offers unprecedented range and accuracy—controlled by a control held in the palm of your hand. The digital wireless Scorpio Focus system employs microwave technology to ensure flawless transmission.

Three functions.

One touch programming

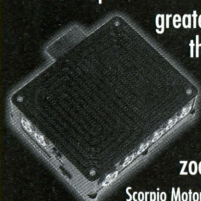
The Scorpio Focus Controller serves as the system's Programmer, offering computer menus for 3 separate functions. Settings are stored digitally & can be easily changed via an easy-to-use touch pad. The unit's focus, iris & zoom controls are easily accessible. The handset's integrated backlit LCD screen makes frame rate, total footage and last-take footage readings visible at a glance.



Scorpio Controller

Lens control with unprecedented accuracy.

The Scorpio Focus offers remote lens control with greater precision and reliability than with conventional radio transmission. Scorpio's 16 bit resolution allows you to manipulate focus, iris and zoom with absolute accuracy.



Scorpio Motor Driver

Speed aperture control.

Compatible with Arriflex and Moviecam cameras, the Focus controls camera speed, iris & shutter angle. Ramp the camera manually or program a preset time duration and store it into the unit's memory. So repeated shots, multiple takes & complex move sequences are easier to nail.



Scorpio Digital Motor

Remote control rack focus & vertigo effects.

To activate the Focus' Vertigo Tracker control function, just program in a sequence of auto focus and zoom moves. Advance the dolly and the lens is automatically positioned. Repeat the same sequence as the dolly is moved forward & back to provide easy set-up of fast rack focus shots.

Super powerful motors.

Scorpio's lightweight digital lens motors deliver more torque than other wireless control systems. They feature integral lens mount gears, and superior optical encoders for maximum precision.

Compatible, flexible & complete.

The Scorpio Focus System is compatible with most popular cine and digital camera and lens systems. When operating by 2.4-2.5 Ghz microwave radio transmission, it can manipulate a camera from a distance of up to 1500 feet. The Scorpio Focus may also be hardwired to operate via cable. Scorpio Focus system is easily adaptable to most camera and lens configurations.



SERVICE
VISION

Scorpio Products

Distributed Exclusively by Ste-Man Inc.
10663 Burbank Boulevard
North Hollywood, CA 91601
Tel 818.760.8290 • Fax 818.760.8805
E-mail: svsscorpio@aol.com

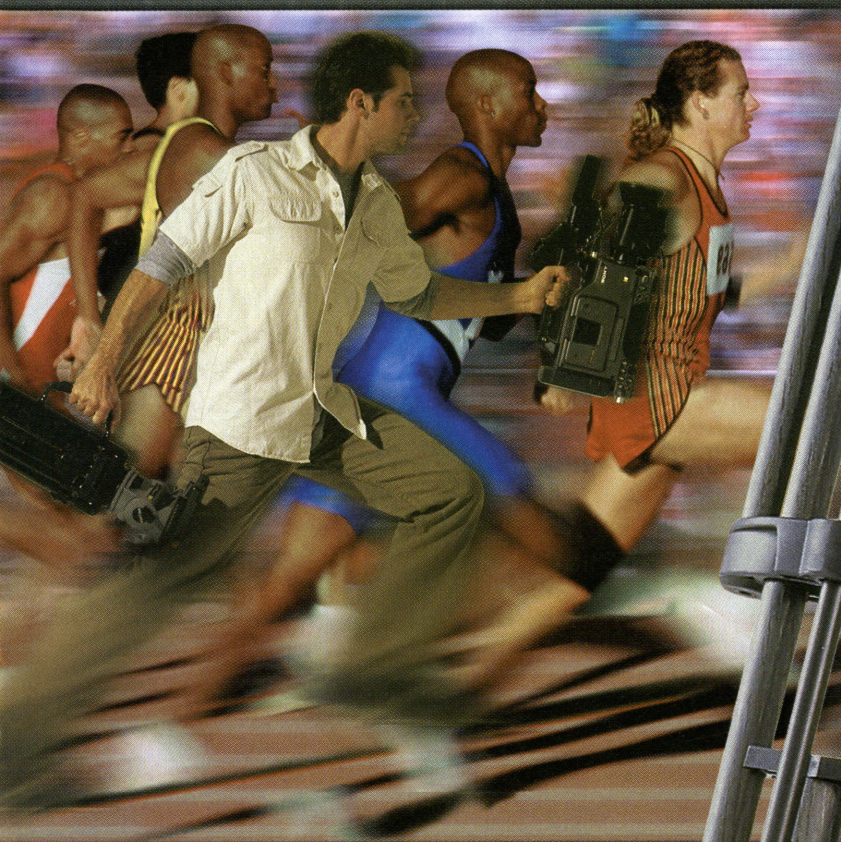
SERVICEVISION SYSTEM S.A.
Pedrosa A. 44 - Poligono Pedrosa
08908 L'Hospitalet (Barcelona) Spain
Tel 34. 93 2238630 • Fax 34. 93 2238631
E-mail: svsscomercial@tinn.net

movements. Vicon demonstrated simultaneous facial, hand and body capture. **Seeing Machines** showed FaceLab, for real-time face and gaze tracking; **Eyematic Interfaces Inc.** announced the availability of its FaceStation, a combo hardware/software automated facial-animation solution that functions as a plug-in to **Discreet's** 3ds max and, soon, **Alias/Wavefront's** Maya; and Belgium company **Eyetrionics** demonstrated its new Liquid Faces, which simplifies and speeds the process of mapping real faces onto existing 3-D facial templates, an option for its 3-D scanner/modeler ShapeSnatcher.

The most interesting story at this year's convention, however, came from the hardware side of the equation. A decade after **SGI** targeted the entertainment industry, other platform manufacturers are finally trying to catch up. One of the show's biggest splashes came from **IBM's** announcement of Linux Digital Studio Solution, IBM's first complete Linux-based solution for the media and entertainment industry. Graphics technology provider **ATI** made its Siggraph debut with R200 technology, shipping in its new boards, the Radeon 8500, 7500 and 8800, to enable more realistic models with less processing power and with support for both OpenGL and DirectX 8. For its part, **SGI** announced the new O2+ workstation, with up to 47 percent more compute power and 32 percent more graphics performance than the O2.

Siggraph also offered a glimpse of how we might work in the future. Examples of "emotional computing," featuring highly intuitive interfaces to applications, were also in evidence. Both **Alias/Wavefront** and its parent company **SGI** demonstrated large plasma touchscreens. Mouse-free manipulation was also shown in Siggraph's Emerging Technologies exhibit, by researchers at **Purdue University**, whose SensingChair enabled the sitter to control a virtual car, and by those at **University of Tokyo**, who showed an Enhanced Desk with virtual objects that were manipulated by simply moving one's hands. ■

WHAT MAKES SPRINTER NEWS...



...SPRINT-LOK DUAL ACTION CLAMPING

Control 2 stages from 1 point!

Dual action Sprint-Loks (patent pending) control 2 tripod stages from 1 leg bracket! Independent, low-profile side action levers also mean rapid adjustment, no accidental opening - and, no more bending down to adjust the lower stage.

Fast and fine tuneable Mid Spreader

Fully variable Mid level spreader lets you 'flip' the tripod open with lightning speed, and also lets you fine tune camera height without releasing Sprint-Loks.

Sprinter/Arrow High Def. package

Reinforced Alloy/Carbon fibre design, snap-action transport clips, inline handle clamp & detachable feet - Sprinter combines with Miller's Arrow HD for the ultimate in High Definition camera support.



2-stage Carbon Fibre
Sprinter with Arrow HD
for High Def production

MILLER

Camera Support

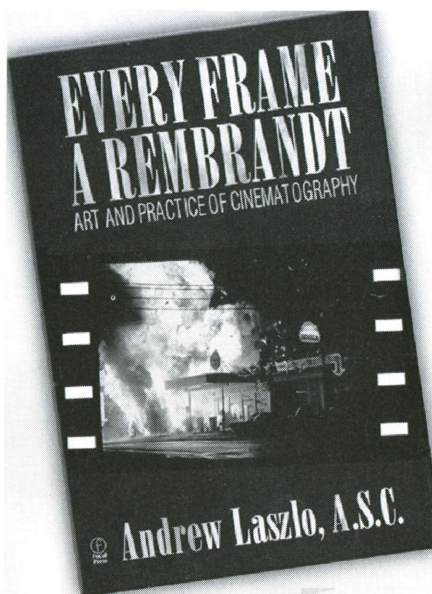
www.millertipods.com

SPRINTER

TRIPOD SERIES

SPEED WITHOUT COMPROMISE

MILLER FLUID HEADS:
INTERNATIONAL: sales@miller.com.au
USA: mfhusa@aol.com
CANADA: sales@millercanada.com
EUROPE: sales@miller-europe.demon.co.uk



This book examines the art and craft of motion-picture photography through a veteran professional cinematographer's personal experiences on five major motion pictures, each selected to illustrate a particular series of challenges for the photographer.

CONTENTS: Southern Comfort; The Warriors; First Blood; Streets of Fire; Innerspace

ISBN 024080399X : 240pp :
6 x 9.25 in. : 12 color photos :
39 b/w photos : 6 line
illustrations :

Softcover : June 2000 :

US\$34.95

www.cinematographer.com

DVD Playback

Gandhi (1982)

2.35:1, Dolby Digital 5.1,
Dolby Digital 2.0 Surround
Columbia TriStar, \$24.98

In ironic contrast to the humility of its protagonist, Sir Richard Attenborough's *Gandhi* — touted in its 1982 publicity as "the film of the decade" and "a world event" — represents the apotheosis of its director's magisterial tendencies. Twenty years in the making and winner of nine Academy Awards, the 190-minute film reenacts Mohandas K. Gandhi's courageous life in reverent and opulent detail, from the sparking of his political discontent as a young lawyer in South Africa to his successful ousting of British colonial rule in India via a radical method of civil disobedience called *Satyagraha*. Though his strategy was popularly known in the West as "passive resistance," Gandhi himself considered this phrase misleading; a truer translation would be "firmness in the truth," and the film contains many stirring depictions of his adamant efforts toward nonviolent political revolution in India. Given the recent terrorist attacks in New York and Washington, now might be a good time to take another look at this landmark film and the philosophy it embraces.

Considering that the filmmakers lacked any kind of digital shortcuts, the grand scale of the production seems overwhelming. It was shot over 5 1/2 months in 87 locations in India and London. The recreation of Gandhi's funeral procession in Delhi involved nearly 400,000 extras and required 11 cameras. Veteran cinematographer Billy Williams, BSC shared an Academy Award for *Gandhi*'s magnificent widescreen compositions with Ronnie Taylor, BSC, who took over when Williams fell temporarily ill. Despite the

vast contrast differences between the film's intimate, soft-lit interiors and harsh daylight exteriors, Williams insisted on keeping his images free of any filtration or flashing. The gorgeous results receive an elegant transfer on this disc, which preserves crisp detail and blacks alongside the muted, parched Indian hues.

This DVD's modest extras may strike some collectors as threadbare, though most would probably consider the lack of a director commentary a mercy. *Gandhi*, after all, spoke quite famously for himself, and the most interesting supplemental materials are several newsreel clips of "the little brown man" (as the British journalists dubbed him) during several events that the film dramatizes: arriving in London to cheering throngs, braving the slashing rain with nothing more than his customary cloak and loincloth, addressing the European community in Geneva via an interpreter, and beginning one of his astonishing "death fasts," in which he voluntarily rejected sustenance for his 86-pound frame as an act of political protest. The newsreels also allow viewers to evaluate the virtuoso performance by Ben Kingsley, in his breakthrough film role, against the genuine article.

Unfortunately, the disc's other "special features" are rather forgettable. An animated collection of political pull-quotes might interest those unfamiliar with Gandhi's rhetoric, but it bears scant appeal as a visual presentation. It's hard to believe that after fighting for two decades to make the film, Attenborough would fail to document the process, but a plodding "making-of" photomontage is all the DVD offers to illuminate what must have been a fascinating production. "Ben Kingsley talks about *Gandhi*," another potentially promising feature, actually acts in perverse counterpoint to the film, because an imperious Kingsley

Optimo!

The Angenieux Optimo Cinema Series delivers the optimum in performance whether you're shooting in 35mm film or HD video. They're in a niche of their own.

The Optimo Cinema Series features the 24-290 35mm Film Lens and the 12 X 9.7 HD Video Lens. Both born of the same advanced optics that Angenieux is recognized for around the world. In fact, the Optimo Cinema Series features a new optical design that propels their performance above and beyond virtually any lens you've seen before. By delivering fine detail, extended focal length, large depth of field, accurate color reproduction and vivid contrast that truly makes the Optimo Cinema Series something special.

Optimo. See the difference the right lens makes. For more information call 973-812-3858, e-mail angenieux@tctus.com, or visit our web site at www.angenieux.com.

Optimo 24-290 35mm Film Lens



Optimo 12 x 9.7 HD Lens



Optimo Cinema Series

angenieux

Dcode® TS-3EL



Denecke, Inc.'s award winning Time Code Slate is available with or without backlight display.

EL Backlight display is also available as an add on to TS-2 and TS-3 Slates!

Denecke products are upgradeable to generate 23.976 fps for High Definition Cameras!

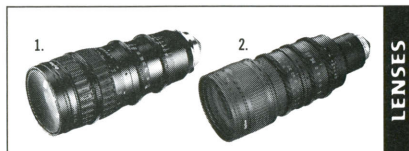
Denecke, Inc.
5417 Cahuenga Blvd. Unit B
North Hollywood, CA 91601 USA
(818) 766-3525, info@denecke.com
www.denecke.com



OpTex®

Dynamic Imaging

SUPER 16 ZOOM LENSES



Using high quality Canon optics, the OpTex designed and manufactured Super 16 zoom range is available in Arri PL, Arri Bayonet or Aaton lens mounts.

1. 21x OpTex/Canon Super 16 Zoom Lens
10.3-216mm T3.3
2. 33x OpTex/Canon Super 16 Zoom Lens
14.5-480mm T3

All lenses feature bright and clear, easy to read zoom and focus scales. Key options include:

- Precision Zoom Motor & Control
- 2x Range Extender
- Studio Follow Focus Rig
- Manual Fluid Zoom Drive
- Super 16 Matte Boxes

International Distribution by OpTex
+44 (0)20 8441 2193, fax +44 (0)20 8449 3646,
e-mail sales@optextint.com
or read more on www.optextint.com

US Sales contact ZGC: 264 Morris Avenue,
Mountain Lakes, NJ 07046 (973) 335 4460,
fax (973) 335 4560 e-mail sales@zgc.com or
read more on www.zgc.com

describes his Oscar-winning achievement in perplexingly banal and occasionally condescending terms. The key to playing Gandhi, he contends, was merely a matter of losing weight, tanning his skin and mimicking newsreels.

— John Pavlus

Mishima: A Life in Four Chapters (1985)

1.78:1 (16x9 Enhanced),
Dolby Digital 2.0
Warner Home Video, \$19.98

As film subjects, writers are surely among the most problematic. How does a filmmaker lend drama and visual vitality to a life dedicated to introspection rather than action? Couple that quandary with the lack of dramatic surprise inherent in a biopic, and a serious cinematic challenge has been posed.

For director Paul Schrader, the ingenious solution was to take viewers *inside* the writer's head. *Mishima: A Life in Four Chapters* contrasts scenes from the controversial Japanese writer Yukio Mishima's past and present (which includes the notorious, suicidal last day of his life) with highly imaginative interpretations of key scenes from three of his novels: *The Temple of the Golden Pavilion*, *Kyoko's House* and *Runaway Horses*.

Visually, Schrader and cinematographer John Bailey, ASC further delineate the film's surgical structure by lending each section its own look. *Mishima's* past is represented in austere black-and-white; the scenes from his novels are gloriously stylized via Bailey's use of super-saturated colors (well-captured here in a solid transfer) and gliding camera moves on Eiko Ishioka's overtly theatrical sets; and the last day of *Mishima's* life is photographed with the straightforward immediacy of a documentary. It all adds up to a fascinating jigsaw puzzle of a movie that resists "explaining" its perplexing subject, opting instead to artfully convey the essence of the man and his core beliefs.

Schrader has provided audio commentaries for several DVDs of his films, and he's damn good at it. He barely pauses for breath throughout *Mishima's*

two-hour running time, and nearly all of the information he provides enhances our understanding of both his unusual film and its "schizophrenic" protagonist, whose literary stature in his home country was comparable to Norman Mailer's in America. Most interesting is Schrader's view that *Mishima* is a "book-end character" to *Taxi Driver's* Travis Bickle, another Schrader character (albeit fictional) who finds himself trapped in a suicidal pathology.

The concept of an American director telling the story of such a quintessentially Japanese character apparently caused such controversy that Schrader, fearful of knife attacks, took to wearing a flak jacket during parts of the filming. (He notes ruefully that the film has never been released in Japan.) Also interesting is Schrader's recollection that his on-set discussions with Bailey eventually had to be hidden from the mostly Japanese crew, who apparently don't like to see any hint of indecision in their bosses.

Included on the disc are a short documentary on the film's production, a brief deleted scene featuring legendary Japanese actor Chishu Ryu, production notes and the original trailer. One mystery remains about this DVD, however: why replace Roy Scheider's dramatic original narration, which is still credited at the end of the film?

— Chris Pizzello

Memento (2001)

2.35:1 (16x9 enhanced),
Dolby Digital 5.1
Columbia Tri-Star Home
Entertainment, \$24.95

By weaving together two compelling narrative strands that move both backward and forward in time — delineated, respectively, by the use of color and black-and-white film stock — Christopher Nolan's ambitious thriller *Memento* injects the venerable film-noir genre with an invigorating dose of post-modern panache. After impressing audiences at the 2001 Sundance Festival (which rewarded Nolan with the Waldo Salt Screenwriting Award), the mind-

hip
hip

HURRAY

SIAMLITE FILM SERVICE & CAMERA CORNER

are proud to have participated in the biggest event of contemporary Thai film history,
providing camera, lighting and grip equipment for 'SURIYOTHAI',
the most epic story ever told in the Kingdom of Thailand.

SIAMLITE FILM SERVICE

TEL : (662) 934 67 21 up to 35

CONTACT : DON ROBINSON

e-mail : webmaster@siamlite.com

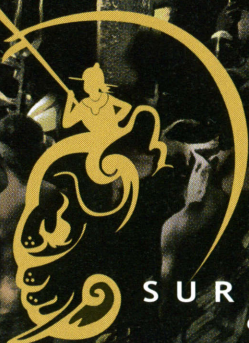
CAMERA CORNER

TEL : (662) 934 67 01 up to 09

CONTACT : ART VUDHIJAI

e-mail : cameraco@loxinfo.co.th

photo by Chairod Mahadumrongkul



สุริโยทัย

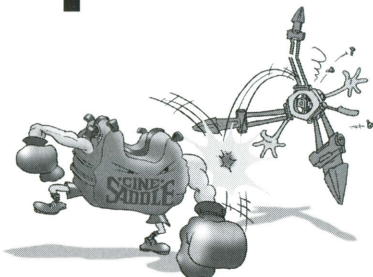
SURIYOTHAI

directed by

H.S.H. PRINCE CHATRICHALERM YUKOL

www.siamlite.com
www.cameracorner.co.th

Tripod Killer



The Cinesaddle does everything your tripod does but better. It also works as a dolly and crane besides being a car, bike, boat and helicopter mount.

Weights 1-1/2 lbs, 1 cubic foot in size.

CINESADDLE for professional film and video cameras

MINISADDLE for consumer DV cameras and camcorders

Tripod Killer Video - \$10

Cinesaddle + Video - \$300

Minisaddle + Video - \$275

CINEKINETIC

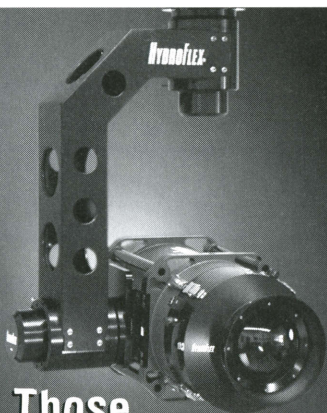
Cinekinetic USA Inc.

1405 Vegas Valley Drive #177

P.O. Box 73063, Las Vegas NV 89170

Tel/Fax: (702) 731-4700

www.cinesaddle.com



Those wet location shots would be a whole lot easier if you'd just use our head.

HydroHead® that is.

Call us or visit our website to see our specialty H₂O products and to find out where you can get HydroFlex equipment and accessories worldwide.

HYDROFLEX
we know wet

5335 McConnell Avenue
Los Angeles, CA 90066

Tel: 310/301-8187 Fax: 310/821-9886

www.hydroflex.com

bending film has enjoyed a long, robust run in arthouse theaters, where viewers starved for cerebral fare have gratefully obsessed over the complex plot like children delighting in a new Rubik's Cube.

The screenplay's twists and turns were drawn from an original short-story concept by Nolan's brother Jonathan, who described the idea to his older sibling during a drive from Chicago to Los Angeles. Trapped within the tale's ever-widening gyre is Leonard Shelby (Guy Pearce), a man determined to track down his wife's killer — despite the fact that a blow to the head has robbed him of his short-term memory. Leonard uses a combination of hastily scribbled notes, Polaroid photos, detailed diagrams and self-inflicted tattoos to stay on track in his dogged quest for vengeance. As Leonard approaches the "truth," however, the story begins to double back on itself with the inevitability of a Möbius strip.

In lesser hands, this high-wire act might have tumbled into the abyss of incoherence, but Nolan and cinematographer Wally Pfister avoid the fall via careful blocking, artfully rendered compositions and a logical progression of ideas. Pfister obviously relished the challenge of exploring the mystery from Leonard's fractured point of view, and he takes great care in presenting the film's myriad clues from both subjective (color) and objective (black-and-white) perspectives. (For more details about Pfister's first-rate cinematography, see *AC* April '01.)

The film's beautifully nuanced images are impeccably rendered on this digitally mastered DVD, which manages to retain the theatrical version's cryptic pull. Rumors that the disc might include a reedited version of the movie, laid out in straight chronological order, turn out to be false, but truly fanatical sleuths could conceivably restructure the film themselves by cueing up the individual sequences in reverse order. The DVD's extras include Jonathan Nolan's short story; the theatrical trailer and TV ad; a trailer for Chris Nolan's first film, the existential cult gem *Following*; a "tattoo gallery" offering close-up views of

Leonard's heavily inked skin; and a peek at a Web site designed by Jonathan that creates a narrative link between his short story and the film.

There are no audio commentaries, but the DVD includes *New York Times* film critic Elvis Mitchell's interview of director Nolan, which originally aired on the Independent Film Channel. The articulate filmmaker offers Mitchell some illuminating insights into his artistic process; noting that he sought to reinvent the classic "amnesia thrillers" he has always enjoyed as a viewer, Nolan cops to his sly use of intentionally unreliable voiceover narration by Leonard. He adds that he was also intrigued by the opportunity to play with the "over-familiar tropes" of film-noir, which led him to try to put viewers "as firmly as possible into Leonard's head" in order to make them "question their own process of memory a little bit, the way we did when we were making the film." Given that many film buffs are *still* dissecting and debating the picture's more elusive clues, it's safe to say that Nolan succeeded.

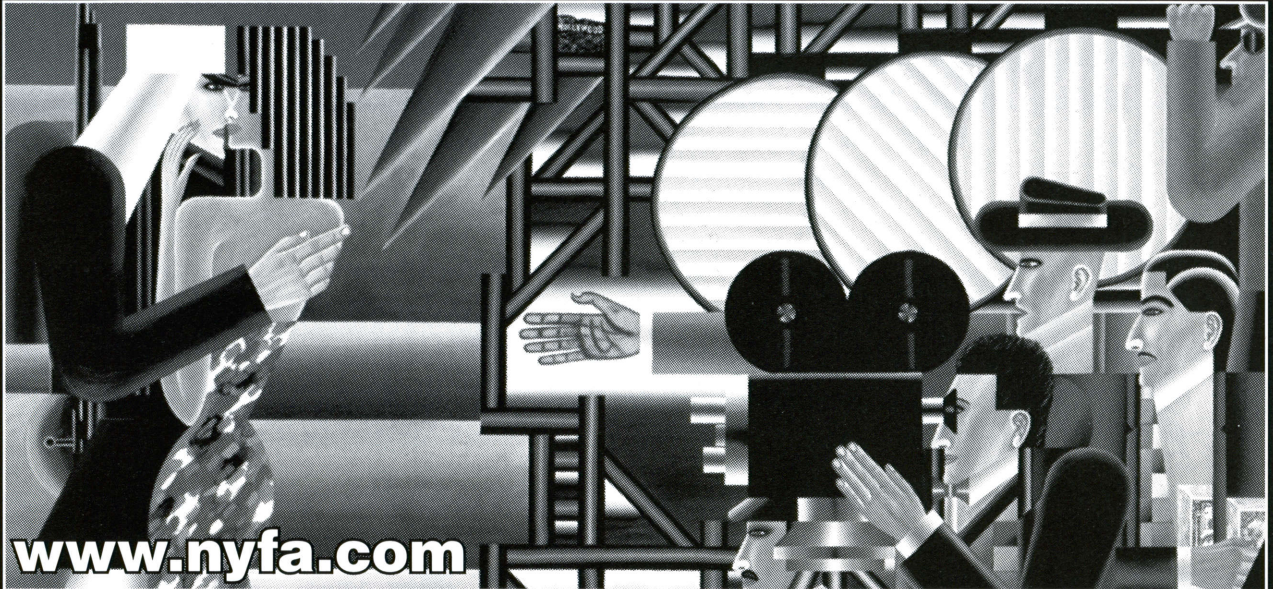
(Ed. note: *Memento* admirers may want to seek out the 1983 British drama *Betrayal*, whose screenplay, penned by the playfully perverse Harold Pinter, moves backward in time to explore the gradual, agonizing breakdown of a marriage.)

— Stephen Pizzello

Bronx Cheer

Eagle-eyed ASC member Sol Negrin points out that our September installment of DVD Playback mistakenly asserts that Stanley Kubrick was raised in Brooklyn, New York, when in fact the great filmmaker was a native of the Bronx. Since DVD columnist Chris Pizzello grew up in Boston, perhaps he can be excused for this mistake, which may be due to a subconscious prejudice — after all, the Bronx is home to the Yankees, the archenemies of every Red Sox fan.

DIRECTING FOR FILM



HANDS-ON INTENSIVE 16MM • DIGITAL • 35MM ONE YEAR PROGRAM

4 AND 8 WEEK WORKSHOPS ALSO AVAILABLE

**LEARN FILMMAKING AT THE MOST INNOVATIVE AND
DYNAMIC FILM SCHOOL IN THE WORLD. FROM DAY
ONE YOU ARE BEHIND THE CAMERA. BY THE END OF
THE FIRST WEEK YOU DIRECT YOUR OWN FILM.**

**NEW YORK FILM ACADEMY, NYC
UNIVERSAL STUDIOS, HOLLYWOOD
HARVARD FACULTY CLUB, MASS.*
PRINCETON UNIVERSITY, NJ*
DISNEY-MGM STUDIOS, FLORIDA***

**CAMBRIDGE UNIVERSITY, ENGLAND*
PARIS, FRANCE, FEMIS*
BARCELONA, SPAIN*
KING'S COLLEGE LONDON, ENGLAND
HONG KONG, BEIJING, SHANGHAI***

*Summer only. All workshops are solely owned and operated by the New York Film Academy and not affiliated with Universal or Disney-MGM studios.

NEW YORK FILM ACADEMY

100 East 17th Street, New York, NY 10003 • tel 212-674-4300 • fax 212-477-1414 • www.nyfa.com • email: film@nyfa.com

INTRODUCING **XL1s**

THIS TIME WE'RE TURNING THE PROFESSIONAL CAMERA WORLD INSIDE OUT.

- *Interval Timer for time lapse video*
 - *Picture Adjustment for color gain, camera sharpness, color phase and black level set-up*
 - *Character Record lets you permanently burn date and time on the tape*
 - *Analog line-in plus audio dub and AV insert*
 - *Clear Scan – removes rolling black bar from CRT monitors*
- 
- *MA-200 Adapter/Shoulder Pad, 3x Extra Wide-Angle Zoom Lens, 3D Lens, Manual 16x Zoom Lens*

After 27 improvements to the inside alone, we're satisfied we've built the most versatile, professional digital camcorder ever. Of course, we couldn't say that without keeping features like the 3CCD chips and the XL mount for interchangeable lenses, including EOS lenses. After all, we wanted to improve it, not change it.

1-800-OK-CANON www.canondv.com

- DV Control operates external storage/recording devices through the IEEE 1394 terminal

- EVF display can be on, partially on or completely off

Power Save overrides VCR

- auto shut-off, leaving camera section on

Mini DV

- White balance - Auto, Preset Indoor, Preset Outdoor and 3 memory settings



- SMPTE color bars

- Index Record lets you mark the shots you like

- Improved Picture Quality – signal to noise ratio improved by 4dB

- Lower Power Consumption

- Gain – additional settings of +18dB, +30dB for virtually-no-light conditions

- 16:9 guidemarks on the EVF in 4:3 mode

- Two Customizable Keys you can program to operate any of 13 different functions (9 in camera, 4 in VCR)

- Adjustable Zebra Level to reveal overexposure (80, 85, 90, 95 or 100 IRE)

- 3 memory settings for picture adjustment registration

- Zoom Speed Set allows for low, medium and fast (plus variable) zoom speeds

- Slow Shutter Speed button now located conveniently on shutter control

- Easy menu layout



©2001 Canon U.S.A., Inc. Canon, Canon Know How, Canon Connects, and the Canon Connects logo are trademarks of Canon Inc.

Canon KNOW HOW™

Production Slate

A Cinematographer Makes a Fiery Directing Debut

Since *Point of Origin* involved the frequent use of fire and burning buildings that had extremely high contrast ratios, director Newton Thomas Sigel, ASC negotiated to include a digital intermediate step in postproduction to control the fire's color and shape.



Sigel Takes the Reins on HBO's *Point of Origin*
by Jon Silberg

Newton Thomas Sigel, ASC's directing debut was a true baptism by fire. *Point of Origin*, the thriller he recently helmed for HBO, concerns a serial arsonist and the fire investigator intent on capturing him despite efforts by the Bureau of Alcohol, Tobacco and Firearms to usurp his authority. Not only was it the cinematographer's first crack at directing, but the job involved the additional distractions that accompany the shooting of scenes while a location is ablaze.

Sigel's reputation as a cinematographer is well established. He has been much praised for his part in creating the

bizarre fantasy look of *X-Men* (see *AC* July '00), as well as the surreal visuals of *Three Kings* (see *New Products & Services*, *AC* Nov. '99, for details on that film's use of cross-processed reversal stock). While he says he's in no hurry to give up shooting, Sigel had let it be known that he would be open to an opportunity to direct, so when HBO offered him *Point of Origin*, he eagerly accepted. In addition to the career opportunity, Sigel felt that the story offered a chance to use some unusual cinematic storytelling techniques to express the psychologically contorted perspective of an arsonist.

Although there was little question that Sigel brought to the project a strongly developed visual sense, some involved in the production weren't sure

how comfortable he would be working directly with actors. "I think it was clear from the beginning of shooting that I love actors and that I'm tuned into their concerns," Sigel remarks. "As a cinematographer, I've shot for a number of first-time or emerging directors, so I've had more interaction with actors and experience with blocking than some [cameramen]. Most of the things I was doing as director were things I'd already done to some extent as a cinematographer."

Just as *Point of Origin* represented a significant career opportunity for Sigel, it also provided the chance for his longtime gaffer, Anthony G. Nakonechnyj, to come onboard as director of photography. Nakonechnyj had already shot a number of independent

Photos by Rafael Winer, courtesy of HBO.

HERE'S YOUR
CHANCE TO
CREATE A VISUAL
REVOLUTION.

Coming January 2002, Fujifilm brings a new realism needed for today's filmmakers. A patented, high-speed daylight film with incredible mixed light capabilities. Fujifilm is again first in innovation. To join the visual revolution, call (323) 957-8828.

Advancing Motion Picture Film Since 1934.

 **FUJIFILM**
MOTION PICTURE PRODUCTS

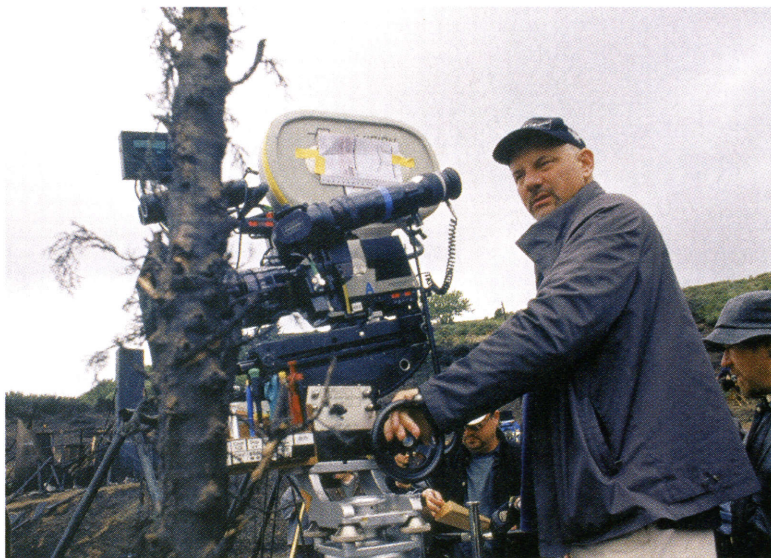


Above: John Orr (Ray Liotta, right) appreciates any help he can get during his investigation of a serial arsonist. Right: Though making his directing debut, Sigel takes a position behind the camera, where many are accustomed to seeing him. Sigel's longtime gaffer, Anthony G. Nakonechnyj, was the director's natural choice to serve as cinematographer on the film.

movies between gaffer gigs, and for Sigel it just made good sense to hire his friend and collaborator to shoot *Point of Origin*. "I knew his work was good," Sigel offers, "and I knew we could work together well and fast. We have a shorthand that makes everything move quickly on the set, and I knew that would be very important. The show is full of fires, there are some long motion-control shots, and we only had 35 days of principal photography, one day of pre-shooting and two days of greenscreen. Every minute counted."

Secure that he and his cinematographer were on the same page conceptually, Sigel was able to devote his attention to the responsibilities of directing. "It was great, because I could design shots in an overall, conceptual way," he says. "I could work on transitions and the ideas of each scene without having to think, 'Do I put a 20K here?' or 'Should we shoot with a Pro-Mist?' I could concentrate less on those specifics and more on the conceptual aspects of the story."

"Tom would talk to me about how the shot evolved and where it fit in the story," Nakonechnyj recalls. "He might say, 'I want you to start here and end up here. I don't know how you're going to do



it, just do it.' As a gaffer, I tend to get very wrapped up in lighting a shot. As a cinematographer, I had to think more in terms of the whole story. I had to ask myself, 'Where does this shot fit into the curve of the drama?'"

Primarily because so much of the show involves fire, Sigel negotiated early on in the budgeting stage to include a digital-intermediate step in postproduction. "For better or worse, HBO insists that all of its movies exist as film prints," he explains. "However,

because this show is mostly going to be seen on TV, I thought it would be insane not to make use of the tools available in TV production to affect the look of the final product."

Sigel explains that the interior of a burning building involves an extremely high contrast ratio between shadows and the very bright and often unpredictable highlights of the fire. Because the fire's color and shape were integral to the story, it became very important to utilize the contrast controls and secondary color-correction available in the digital realm. Sigel's past work with a variety of alternative photochemical is well known, and he could say with certainty that the degree of image control required for *Point of Origin* was simply not attainable via traditional lab methods. "This meant that we had to be very conservative and 'down-the-middle'

in terms of the initial photography," he notes. "We needed to have as much information as possible on our negative and on our first transfer to [24p high-definition] tape so we could later do a complete tape-to-tape color correction in the telecine room at the Post Group."

While Nakonechnyj completely agrees that this conservative approach to the cinematography was necessary, he admits to moments of frustration. "When Tom shot *Three Kings*, you could get an idea from dailies what the film would



SONY®

EVERYTHING YOU EVER WANTED TO KNOW ABOUT SONY HDCAM SYSTEMS

All the facts. All the FAQs. All the product details. All the opinions and inside stories, and all in one place: a must-have DVD package direct from Sony. Including video interviews with visionaries leading the HDCAM® format revolution: George Lucas, James Cameron, John Amodeo and more.

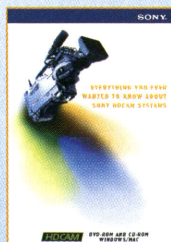
Naturally, you'll want your DVD -- because from HDCAM 1080/60i to CineAlta™ 24P systems, Sony has your HD answers. With real HD success stories from broadcasters using it in the field. Independent producers taking it on location. Mobile trucks covering sports. Corporations creating high-end videos. And rental houses discovering that it pays to have plenty of HDCAM equipment to offer their customers.

Sony has even more good news; with the recent introduction of 2nd generation HDCAM 1080/60i, HD is even more cost-effective. It delivers the performance, convertibility and flexibility you demand today. While creating the superior archive of HD masters you'll need tomorrow.

To order your free HDCAM DVD package visit our new HDCAM site at www.SonyUSACineAlta.com or call **1-866-MY-HDCAM**. On the website you can download information, read about HDCAM equipment in the news and see lists of who's using, renting, and producing with Sony HDCAM equipment.

You'll find you're in very good company.

GET YOUR FREE DVD



WWW.SONYUSACINEALTA.COM

1-866-MY-HDCAM

HDCAM

Whether you're shooting a live production or a still photograph, lighting problems are just part of the process.

While today's technologies allow us to create many more unusual and complex shots, keeping it simple has oftentimes become even harder to achieve.

Well, not anymore!

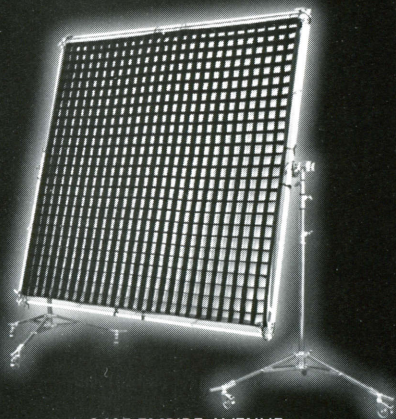
MSE Studio Equipment is the exclusive distributor of an incredible piece of equipment — the Soft Egg Crate™. A single Soft Egg Crate will allow you to control your soft lighting effect for multiple subject set-ups while not interfering with background lighting effects, and it will allow multiple camera use as there is only one piece of equipment — so there's plenty of room to move around!

Sound simple? It is!

Soft Egg Crates are available from MSE in 6x6, 8x8, 12x12, and 20x20 foot standard sizes. Custom sizes available. Diffusion angles of 30°, 40°, and 50° are available in both lightweight and heavyweight fabrics.

www.msegrip.com

MSE
STUDIO EQUIPMENT, INC.®



2405 EMPIRE AVENUE
BURBANK, CALIFORNIA 91504
1.800.CE.STAND • FAX: 323.849.1525

Copyright © 2001 MSE, Inc. All Rights Reserved.
Soft Egg Crate is a trademark of Lighttools.



Orr's wife (Illeana Douglas) begins to have doubts when her own husband is implicated in the arson ring.

ultimately look like in theaters. It wasn't perfectly timed shot to shot, but the overall effects of the cross-processed shots and the bleach-bypass vs. non-bleach-bypass shots all had an effect on what you'd see in dailies and what would go into the Avid for editing. With this method of digital intermediate, you can't see a lot of these things until it's cut together. This could turn out to be a bit difficult, because when it finally comes time to do the tape-to-tape, some people involved in the production who have gotten used to seeing the very conservative approach don't want to see it change from what they've been seeing all along."

Nakonechnyj shot some tests, transferred and color-corrected them, and filmed them back out. He notes that some kinds of manipulation are too difficult to undo or refine even using a digital intermediate. "You can turn the sky white or purple or whatever you want in secondary [color-correction], but if your changes are too drastic, you start to pick up noise and fringing around the edges by the time you go back out to film. The noise appears as grain on the answer print. Grain isn't necessarily a bad thing in and of itself, but when you have one area, such as the sky, that looks like it has dancing grain all over the place, it

calls attention to itself."

In order to capture as much information as possible on the original negative, Nakonechnyj sought out a stock that could capture the most detail, from dark shadows to very bright highlights; this would ensure that the fire, with its extreme brightness and degree of unpredictability, could retain its shape and color on film, while the lights on the actors wouldn't have to be as bright as the brightest portions of fire. Fortunately for Nakonechnyj, he was able to obtain some of Kodak's new Expression 500T 5284 stock before it was officially released. This low-contrast emulsion, which he rated normally, worked exactly as he'd hoped. "It keeps shadows deeper and highlights higher than anything I've seen," he says. "We could light the faces to a T3.2, and the flames could go five stops over that and retain color and detail. The shadows could drop to three or four stops under that and still retain a surprising amount of detail."

To light the fire sequences, Nakonechnyj expanded the appearance of light coming off the fire by using Maxi-Brutes combined with amber gels. "We flickered those lights to match the fire," he says. "They filled in areas that could have been lit by the fire and made the flames appear to go farther." He gener-

ally used hard, bare light generated by a group of Maxi-Brutes to illuminate actors' faces. The lighting scheme in the fiery interiors also included the use of some HMI highlights on walls. These, he explains, "were designed to be timed to neutral so they would go white in the final image. In doing that, we boosted the red and the yellow of the illumination from my tungsten lights and the fire."

Nakonechnyj was very happy with the new Kodak stock. "It's very soft but beautiful. You can use harder lenses or more specular light, and it can handle whatever you do." In order to put some snap into scenes with less demanding contrast ratios, Nakonechnyj used Kodak's Vision 500T 5279 for the film's interiors and EXR 5248 for exteriors; both stocks were rated normally, and he softened the image with either Tiffen's Soft F/X or white Pro-Mist filters.

For some interior shots in which ATF agents plan their strategy to capture the arsonist, Nakonechnyj further softened the contrast of the 79 by piping a minimal amount of smoke into the background. "I like to create layers and depth," he explains. "For some of the big meeting scenes, I used smoke to create atmosphere in the background, and I then lit that atmosphere and let the foreground go darker. For scenes in the ATF office [built inside the Ambassador Hotel in Los Angeles], I lit the actors in the foreground with Kino Flo topight; we also had beam projectors aimed through windows, and those interacted with the smoke to provide shafts of light in the background. Our approach brought a sense of depth to the scene and also helped lower the 79's contrast a bit. I also used a white Pro-Mist for those shots."

Of course, Nakonechnyj needed the confidence that his gaffer, Jennifer Perkins, would be as efficient and detail-oriented as he'd always prided himself on being. Perkins, whose credits included the recent comedy *Tomcats*, came highly recommended. During his initial meeting with her, Nakonechnyj discovered that her ideas about lighting were very similar to his own. The fact that they had both grown up in Texas helped seal the deal.

NEW!



Alumakart™

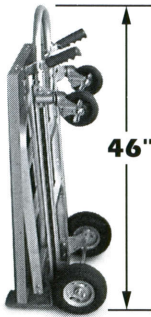
Exciting, All New Kart!

Utilizes the same shelf as it's big brother "Gemini Jr.", yet is lighter and more compact.

from



website: www.nalpak.com
email: nalpak@nalpak.net
Ph: (888) 4-TUFFPAK
Fax: (800) 4-NALPAK



46"

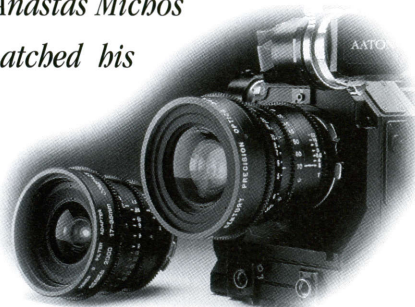
Garrett Brown's Point of View



Garrett Brown's SuperFlyCam with 17-35mm lens

"We just used Century's excellent 17-35mm lightweight zoom on my new 'SuperFlyCam' for Danny Devito's Death to Smoochy in Toronto. Picture a 30 pound flying object that is the 'clothes' on a simple high-speed clothesline rig. It was designed to be easy to set up and affordable, yet fast (35mph) and stable. The little zoom is a perfect complement to my SL Cine Arri, and DP Anastas Michos reports that it perfectly matched his Panavision primes. Dammit. Now I want the 28-70!"

Garrett Brown, ASC, Inventor
www.garrettcam.com



Century/Canon 17-35mm T3 &
Century/Minolta 28-70mm T3

Get Century's Point of View

www.centuryoptics.com

1-800-228-1254
A wholly owned subsidiary of Schneider Optics
Century precision optics
Tel: 818-766-3715 • Fax: 818-505-9865

However, Nakonechnyj concedes that he had to adjust to the fact that he wasn't the gaffer on the set. "It was a good experience. It taught me to step back. I had to be able to say, 'Jennifer, we talked about a big, broad source here and the highlights back there, now go do your thing. I have to work out what A camera and B camera are doing and talk to Tom about how this scene develops dramatically.'"

While Nakonechnyj is philosophical about the business ("I can't say I'm never going to work as a gaffer again, [because] I have a wife and two kids."), he did get a special rush from his role as cinematographer on *Point of Origin*. "It's a different way of thinking. When I'm a gaffer, I'm very focused on a very narrow portion of the film; I'm not as worried how that work fits in with the whole story. I definitely had to step back on this show, because I wasn't just looking at lighting the next shot. I felt more a part of the creative process than ever."

Likewise, Sigel is not prepared to

declare himself exclusively a director. "I love shooting, but I love directing, too," he says. "Directing is a whole different way of thinking, and I got a lot out of doing it. Overall, as long as I'm part of the filmmaking process, I'll be happy."

2001 AMIA Conference to Convene in Oregon

The Association of Moving Image Archivists (AMIA) will hold its annual conference at the Marriott Downtown Hotel, in Portland, Oregon, from November 6-10. A broad slate of panels, workshops, advanced technical symposia and special screenings will focus on the latest technology, practices and standards for restoring, archiving and accessing moving images and sound.

"We are on a rescue mission to preserve the integrity of classic and contemporary Hollywood productions, newsreels and documentaries, local television productions and educational programming that will tell future genera-

tions the stories of the 20th century," says AMIA president Sam Kula. "This conference is designed to provide a platform where the world's leading experts can share their ideas, discuss the challenges and debunk the myths about archiving moving images."

Kula notes that advances in digital, cable and satellite television and DVD technology have created new markets for content, which in turn have made asset protection and management a profitable venture. Studios and independent producers now look at their libraries as assets with great financial as well as cultural and historical value.

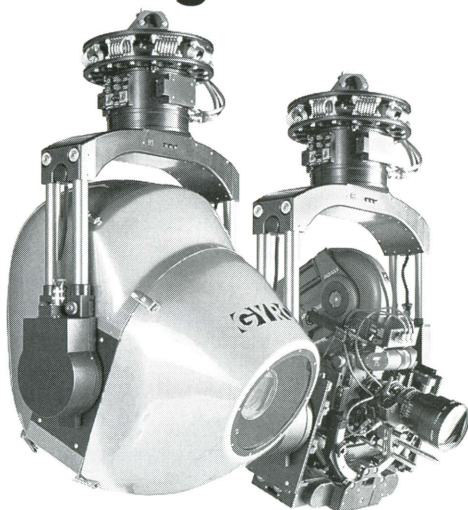
The AMIA conference will explore advances in film, digital and hybrid technologies designed for restoration and preservation applications. Another highlight is the Small Gauge Symposium, which includes screenings and sessions that primarily focus on 8mm and Super 8 film.

"So much of our history was

ACS - France 33-39-56-7980

William F. White - Canada 416-239-5050

To Fully Stabilize Your Production Camera Package, Use The STAB-C. These People Did.



Use With Or
Without Housing

Feature Film:

Not A Teen Movie
Training Day
Courage*
Gone In 60 Seconds
Men Of Honor
What Women Want
Legally Blonde
Monkey Bones
Chocolat
D'artagnan
The Bourne Identity
The Four Feathers
Band Of Brothers
Leverite Si Je Mens

*65mm IWERKS

D.P. / Operator:

Ray Villalobos
Mauro Fiore
Steve Howell
Paul Cameron
Tony Richmond
Dean Cundey
Tony Richmond
P. Vanover
Jeremy Braben
Peter Hymes
Oliver Wood
Robert Richardson
Jeremy Braben

Location:

USA
USA
USA
USA
USA
USA
USA
USA
France
Belgium
Italy
Morocco
UK
France

Support:

Crane
Crane
Airborne
Crane
Crane
Crane
Crane
Crane
Airborne
Camera Car
Airborne & Crane
Airborne & Crane
Airborne
Airborne



Nettmann Systems International □ 6910 Tujunga Avenue □ North Hollywood, CA 91605, USA □ 818.623.1661, Fax 818.623.1671

Visit Us On The Web At: www.camerasystems.com

Big Toys - Australia 61-29-958-0402

S.C.R.E.W. - Japan 042-729-2771

Wolfe Air - Pasadena, CA, USA 626-584-8722

ACE - Baltimore, MD, USA 410-243-4181

captured on these small-gauge formats," says Kula. "Now, there are practical ways to restore, preserve and repurpose these films."

AMIA members and conference participants are drawn from a broad cross-section of film, television, video and interactive media organizations that are interested in preserving studio and independent narrative films, newsreels and documentaries, as well as national, regional and local teleproductions, including news, public affairs and entertainment programming.

AMIA members are also responsible for archiving specialized collections of moving images, including independently produced film and video art, amateur footage, and film and television programs reflecting a variety of ethnic and minority experiences.

The 2001 Annual AMIA Conference is open to everyone with an interest in these issues. For more information, please visit www.amianet.org or call (310) 550-1300.

ASC Calls for TV Entries

The American Society of Cinematographers has issued a call for entries for the 16th Annual Outstanding Achievement Awards competition in three television categories: episodic television; network miniseries, pilots and movies of the week; and basic cable miniseries, pilots and movies of the week.

"These awards are a celebration of an art form," says ASC president Victor J. Kemper. "Our purpose is to recognize talented visual storytellers who have earned the admiration of our members, and to inspire the pursuit of excellence in all three of these categories of television programming."

This is the only competition in which cinematographers are nominated and winners are selected by their peers. "We believe that is an important distinction, because artful cinematography isn't always evident to people who aren't cinematographers," Kemper says.

Winners will be announced

during the 16th Annual ASC Outstanding Achievement Awards dinner, to be held at the Century Plaza Hotel on February 17, 2002.

Eligible programs and films in all three categories must air during the year 2001. The deadline for submission is January 2 at noon (PST). For information regarding rules for entry, visit the ASC Web site at www.cinematographer.com, or contact Patty Armacost at (323) 969-4333. ■

Next Month in Production Slate:

No Man's Land

Director: Danis Tanovic

Cinematographer:

Walther van den Ende

Hybrid

Director/cinematographer:

Monteith McCollum

CAMERA DOORS & VARIABLE SHUTTER for Arriflex 35 III

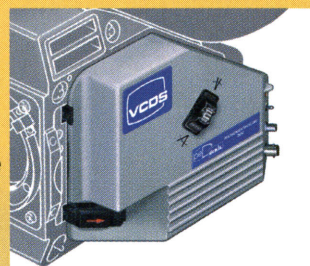
VCSC digital 2000 Video Assist
Version 3

Super Wide
Angle Eyepiece

Variable Shutter 15-180°



VCD Pivoting Video
Control Door
with 3-way viewfinder
video light path



VCDS Video Control Door
for Steadycam (light-weight)



VCDA Pivoting Video
Control Door
with anamorphic de-squeezing
with 3-way viewfinder video light path

Otto-Hahn-Str. 12-14
D-85521 Ottobrunn (Munich)
Phone +49 89 - 6298660
FAX +49 89 - 62986620

E-Mail info@denz-denz.com
<http://www.denz-denz.com>



PRÄZISIONS-ENTWICKLUNG DENZ

Quality made by Denz - Quality made by Denz - Quality made by Denz

Haskell Wexler on shooting with the Hawk 150-450mm T2.8 zoom:

We asked Mr Wexler about his use of our lens to add a sense of documentary reality to a feature. Here are some of his answers:

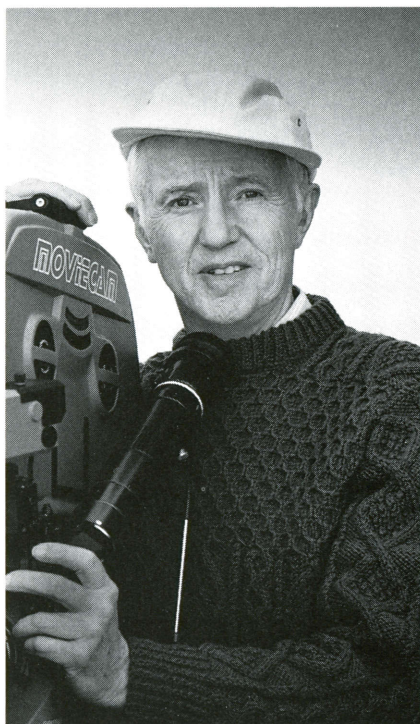
“We had a crowd of shabbily-dressed extras, playing Thirties dust-bowl migrant farmworkers in a camp. Between setups, they stopped acting and behaved unselfconsciously.”

“To get that on film, we hid my 35BL inside a battered suitcase with a hole at one end and we dressed an operator in shabby Thirties clothes. Between setups, he sat on a box with the suitcase on his lap, looking down into the eyepiece and with his lens aimed sideways at the extras. Nobody noticed him.”

That’s how Mr Wexler did it on Bound For Glory in 1975. But on this new job, the cameras could not be hidden. The extras would be baseball players and spectators. The cameras would be out there on the field, in plain sight.

About the lens:

Mr Wexler didn’t mention it, but it’s worth knowing that there are two internal slots that accept 48mm round filters. One of those can be a polarizer, which you can rotate externally by hand or motor, using the built-in gear.



Director of Photography
Haskell Wexler ASC

The movie’s story was the rivalry between Mickey Mantle and Roger Maris during the Yankees 1961 season. It was to be directed by Billy Crystal, a long-time baseball fan and friend of Mickey Mantle. That year, both Mantle and Maris were trying to be the first to beat Babe Ruth’s single-season home-run record.

True story

Mr Crystal was determined to get every detail accurate. The home-run race was a

drama, but much of the picture’s impact would depend on its credibility as a true story, truthfully told. Parts of it almost like a re-enacted documentary.

“To give a realistic documentary feel to the baseball sequences, I wanted our footage to remind the audience of the way they see real games covered on television,” says Mr Wexler. “That would mean long lenses. And half the baseball sequences would be night games. *Fast* long lenses.”

“Even for the *day* games, we would need fast, long lenses for shallow depth of field. Television uses that to isolate the pitcher out there. I would also need it for shots of the spectators in the stands. We would have about a thousand extras in the first few rows. Behind them, the spectators would be cardboard cutouts and balloons.”

Pick out details and frame them well

“My usual package includes some long Canons. But they’re not fast and you can’t vary the framing. We wanted to *find* details in the scenes staged for the A and B cameras — to discover a kid eating a hot dog in the stands and to get interest-

ing closeups of unaware players 150 feet away. You can't properly frame spontaneous shots like that without a zoom lens."

When shooting began, Director Crystal asked the baseball-player extras to stay in character even if they were in the background or the dugout. That was no problem — they were all former professional baseball players.

"With the Hawk lens on the C camera, we could follow an outfielder as he ran back looking over his shoulder, and then zoom in to see him catch the ball close up," says Mr Wexler. "We also set up behind the pitcher, filling the frame with the ball in his hand. We pulled back to a waist shot as he wound up. As he pitched, we shifted focus to the batter."

Awards

Haskell Wexler has won two Academy Awards: one for *Who's Afraid Of Virginia Woolf* and one for *Bound For Glory*. The film Mr Wexler talks about here (61*) has won twelve Emmy Nominations, including one for its Cinematography.

The player extras in the dug-out could see several camera crews out there, all apparently shooting the game. With the cameras so far away, the extras assumed their dugout would be a small part of the background. One player would take off his cap and scratch his head unselfconsciously. Another would spit like a real pro, which he was. All that was caught in closeup at 450mm.

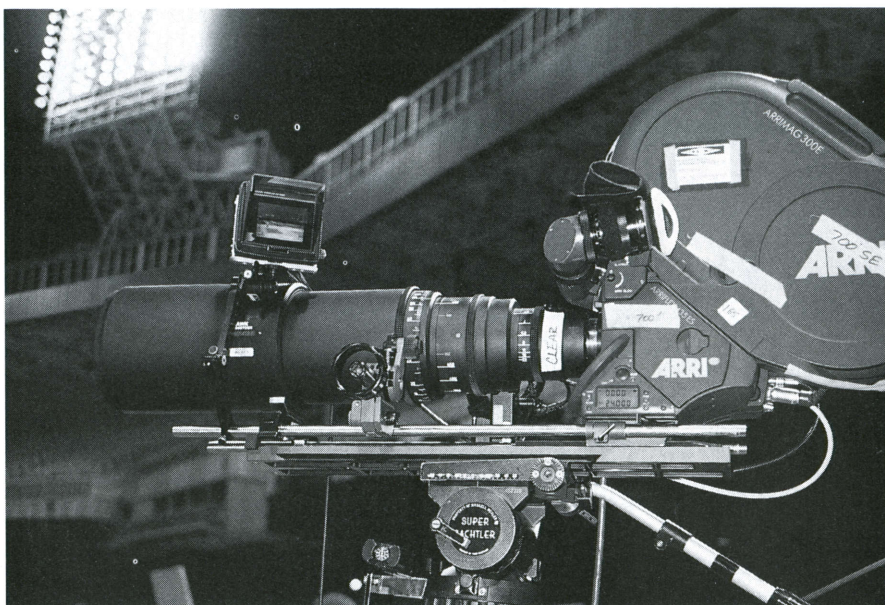


Photo above: Hawk lens on 435 during shoot at Tiger Stadium in Detroit. 50% of game footage was shot at night, some of it at T2.8 and 450mm. Crew used Preston FI+Z remote control with Hawk for focus, iris and zoom.

"During one scene, the Roger Maris character was sulking in the dugout, partly hidden from C camera by players out on the field in front. From 150 feet away, I zoomed past and between them, and in on his angry face," says Mr Wexler. "The extreme perspective compression and the out-of-focus foreground figures gave the shot a voyeuristic realism."

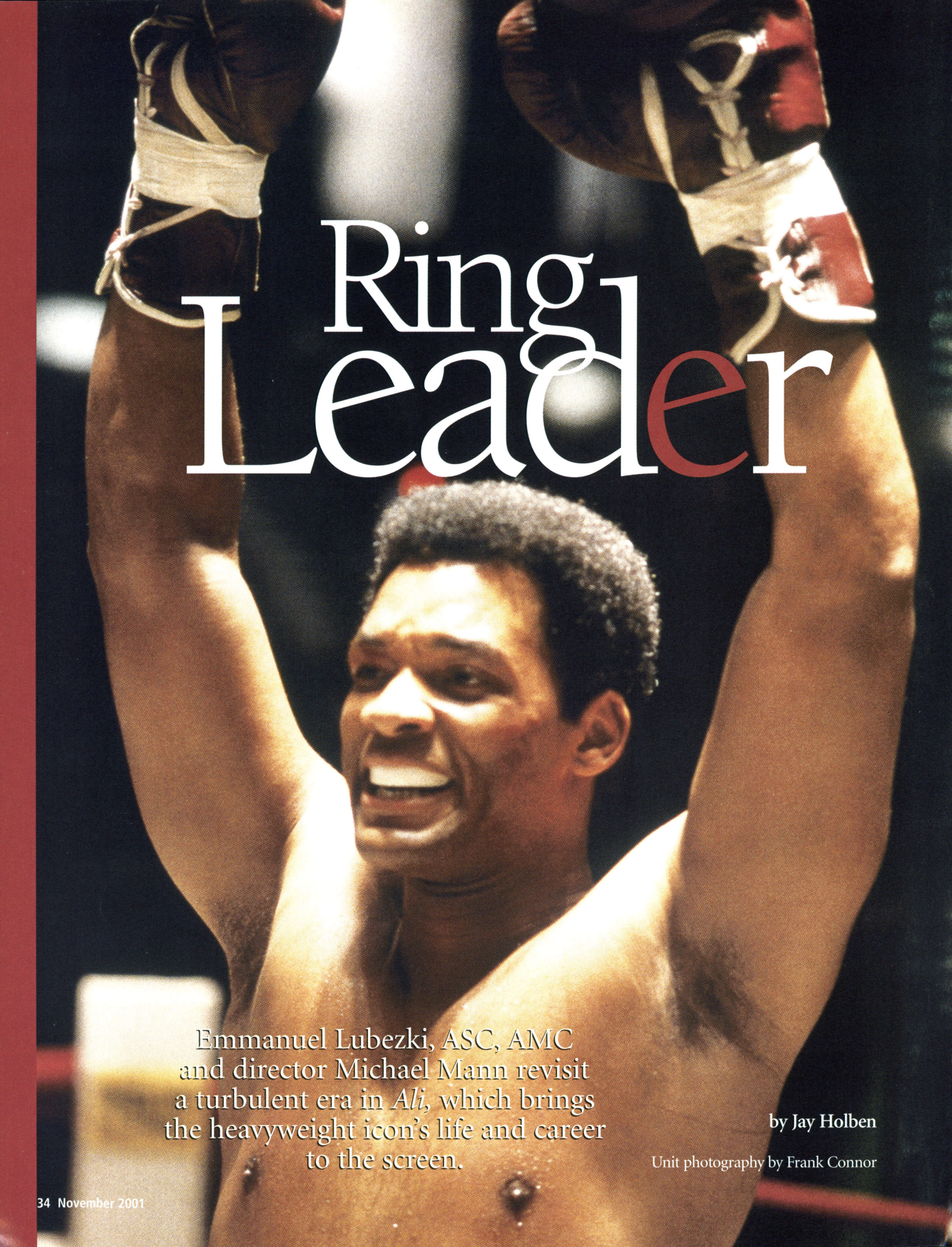
Image quality on screen

"Later, when we screened a workprint at the lab back in Hollywood, I was very happy with the image quality. It had been a pleasure to use a really long zoom and not worry about losing the light or being out of business at T5.6. As to the night games: I couldn't have stolen those closeups without that lens."

HAWK®

More information: Vantage Film, Germany
Telephone: 49-961-26795 • Fax: 49-961-62983





Ring Leader

Emmanuel Lubezki, ASC, AMC and director Michael Mann revisit a turbulent era in *Ali*, which brings the heavyweight icon's life and career to the screen.

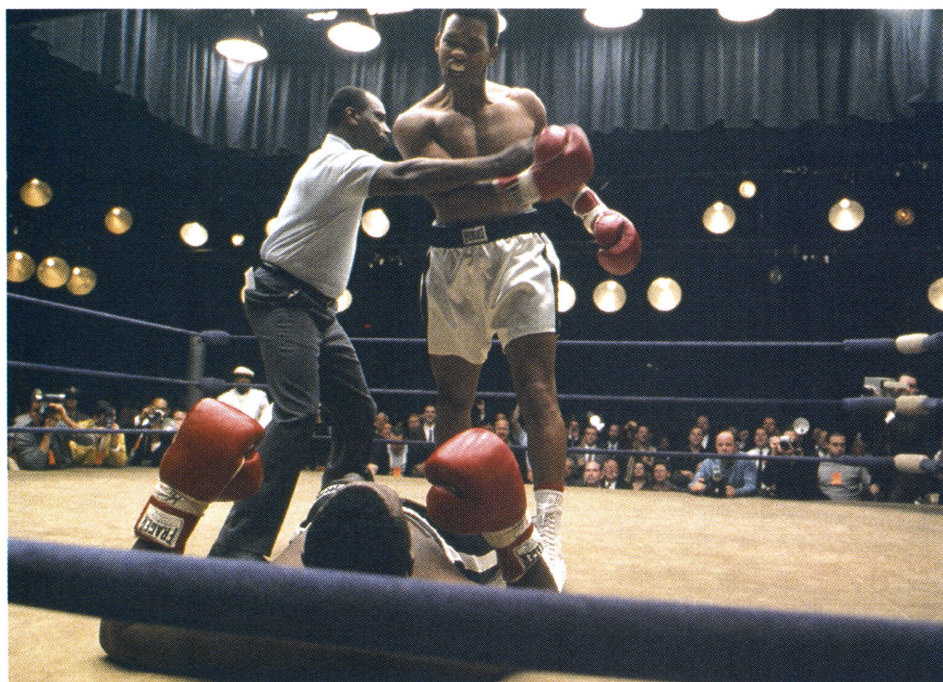
by Jay Holben

Unit photography by Frank Connor

In the mid-1990s, young Mexican-born cinematographer Emmanuel Lubezki, ASC, AMC (known to his friends and crew as “Chivo”) had recently completed his first English-language feature, *The Harvest*, when the phone rang. At the other end of the line was director Michael Mann, who had just released *Last of the Mohicans*. “He told me he had seen *Harvest* and really liked my work,” recalls Lubezki. “It was ironic because David Marconi, the director, and I had looked very closely at Mann’s *Thief* when we were researching *Harvest*, and we wound up ‘stealing’ a bunch of shots from that film! I don’t know if he noticed that we’d done that, but we met a few times after that and he kept telling me that he wanted to work with me. When he asked me to shoot *Ali*, I said yes immediately. I was very excited to do a movie set in the Sixties, which was an incredible period in history. *Ali* is not just about Muhammad Ali’s boxing career; it’s also about the civil rights movement and all of the events surrounding those years, and I found that incredibly exciting.”

Lubezki and Mann began collaborating a full six months before principal photography was slated to start. “Because we had never worked together, Michael allowed for a very long prep period so that we could get to know each other and get to a point where we were on the same wavelength. With a movie of this scale, you have to get into the director’s mind as much as possible. Spending a lot of time together is an absolute must.”

The months before cameras rolled were filled with intensive camera tests on everything imaginable. Lubezki summed up his testing as being “like going to school all over again. For every movie on which I’m allowed to do tests, I imagine that I know nothing and must learn everything all over again. It’s a really wonderful process that I love.”



While the cinematographer was going back to film school, actor Will Smith, who portrays the legendary boxer, was going through the second half of a year of fighting school. Lubezki and Mann often sat in on Smith’s boxing lessons and videotaped them to get ideas about how to cover the fights represented in the movie. “We were there as often as we could be, watching and listening to the coaches,” Lubezki recalls. “Michael knows a lot about boxing, and he has an incredible capacity for concentration. He can see movements that no one else sees, almost like an insect. He captures a fraction of a second and knows what went wrong or why that movement doesn’t look good. It was great to see how Michael developed that ability and how Will Smith became a boxer. For me, the process involved doing months of camera studies of the actor’s movements, and determining how best to choreograph the camera for the boxers’ ballet.”

“Many people have likened Ali’s fighting to Baryshnikov’s dancing, and that’s pretty accurate,” says Mann. “It has the genius of dance. Ali’s fighting has the ineffable quality



of Michael Jordan in the air; that’s the great beauty of Ali.”

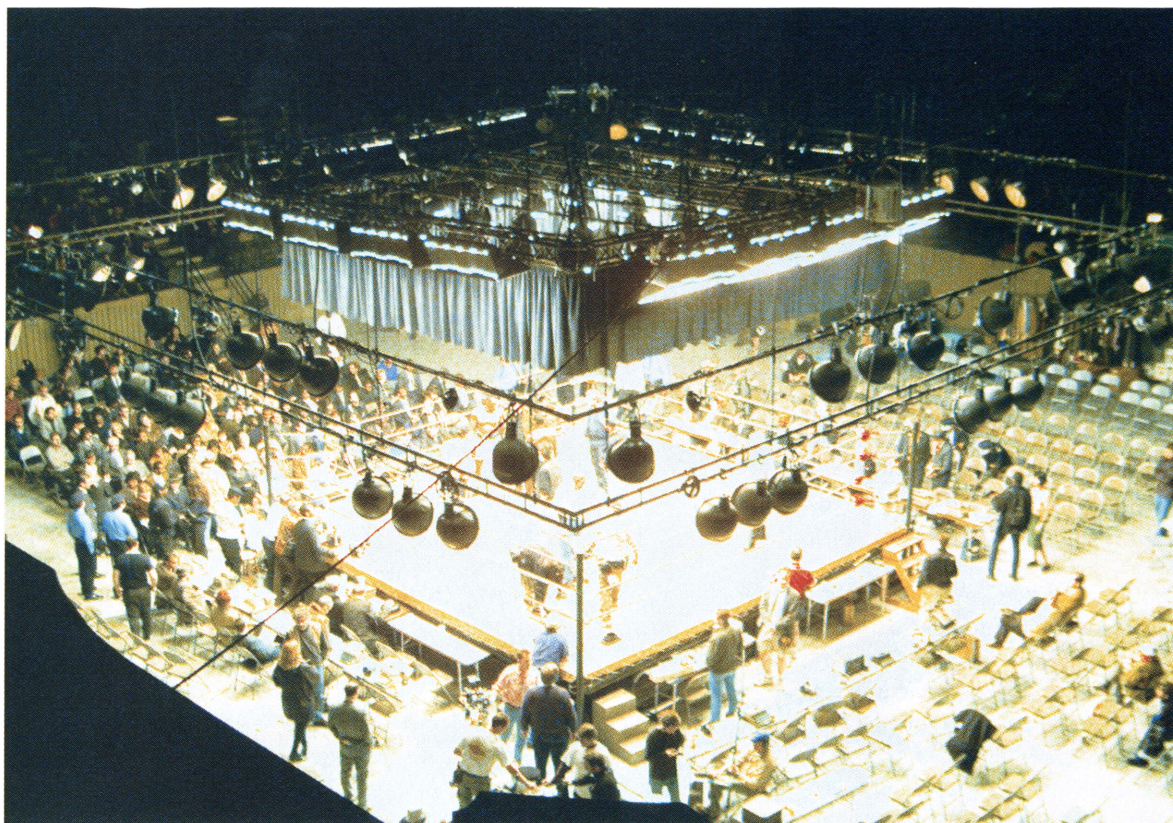
One of Mann’s directives during the many months of preproduction was the absolute adherence to realism. “The important thing for Michael was that the movie should not feel nostalgic,” Lubezki says. “He didn’t want to romanticize the past; he wanted the film to feel very immediate. Many scenes take place during major historic events that everybody knows about, and we did everything we could to make them feel as though they’re happening for the first time onscreen.

“For example, the assassination of Martin Luther King Jr. is a

Opposite page: Ali (a bulked-up Will Smith) raises his arms in triumph. This page, top: In a recreation of a famous pugilistic pose, Ali exults over the fallen Sonny Liston (Michael Bent). Bottom: Ali playfully plucks at the toupee of sportscaster Howard Cosell (played by a heavily made-up Jon Voight).

Ring Leader

In lighting the various boxing sequences, the filmmakers strove to be accurate to the period fixtures that were used in each era. After consulting with lighting designers who had actually illuminated Ali's fights, Lubezki learned that these units ranged from "tungsten sources, which created a soft overhead look, to very hard mercury-vapor and Par lighting later on."



moment that people know very well," he continues. "There is a famous picture of King lying on the [Motel Lorraine] balcony after he's been shot, and that image is in the minds of millions. We therefore worked to reproduce that moment very precisely with lighting, framing and composition. It makes the moment more 'real' and gives it the weight it deserves."

"When you're dealing with specific moments in history, you have to be true to them," asserts Mann. "We did the same thing with significant fights in Ali's life. When he knocks out George Foreman in Zaire, we recreate every single detail. You could put our sequence right up against a slowed-down version of the real fight and it's punch for punch, move for move. It was absolutely imperative to be true to those historic moments."

Toward that end, Lubezki amassed an exhaustive collection of photographs of Ali's life and fights

and studied them endlessly with Mann. They scrutinized every detail — every lamp, every piece of furniture and every window were taken into consideration when those moments were recreated in the film. An added bonus for the filmmakers was their ability to consult daily with one of Ali's closest friends, Howard Bingham, who has shot thousands of photos of the fighter. Bingham's photos played a significant role in determining the look and feel of the film. "Howard was with me every day of the movie," Lubezki says, "and it was amazing to have my own lighting and reality consultant. I could turn to Howard, who had been at many of the events we were recreating, and say, 'Howard, how do you feel about this? Does it remind you of something?' That was great. The man is a brilliant photographer, a true artist, and it was fantastic to have him around."

In extending his obsessive quest for realism in the ring, Mann

sought to make the boxing sequences "completely authentic," noting that "a professional boxer takes 75 or 80 punches in a fight. If he sees them coming, he sets himself and he'll take those shots. Our approach was that Will would become a boxer. Everybody he fought in the ring was a professional fighter. Will took the punches the other guys threw and they took the punches he threw. I didn't do it with stunt coordinators and stuntmen, so we didn't have to worry about positioning the camera in exactly the right spot to make sure we wouldn't catch that left hook missing the actor by four inches. In this film, those left hooks don't miss; they actually hit Will! Because our boxers were actually connecting, the camera blocking then became a question of how to externalize that experience for the audience."

Mann and Lubezki employed several different techniques to accomplish that. Their first rule was to never lock down the camera. "Ali



Left: Flamboyant fight promoter Don King (Mykelti Williamson) primes the press for the hotly anticipated "Rumble in the Jungle" between Ali (Smith, left) and the seemingly invincible George Foreman (Charles Shufford, right). Below: Bathed in an appropriately romantic hue, Ali shares a tender moment with his first wife, Sonji (Jada Pinkett-Smith).

is about 99 percent Steadicam and handheld work," says Lubezki. Mann adds, "That's what gives it a spontaneity and a sense of being right there with the characters."

Given this approach, A-camera operator Gary Jay (who had previously worked with Mann on *The Insider* and *Heat*) and Steadicam operator Jimmy McConkey (who had worked with Lubezki on *Great Expectations*) both had their work cut out for them. Every setup involved multiple cameras — at least two, but sometimes as many as five — and none was locked down. "I shoot with multiple cameras on all of my films," Mann points out. "I really like spontaneity in performance, and if something great is going to happen, I want to capture the lightning in a bottle."

Even when a dolly move was involved, Lubezki and Jay would slip a sandbag between the head and the base of the camera to maintain a handheld feel. "Though the cameras are constantly moving, the movement isn't random," Lubezki states. "There is a secret precision to the

movement and compositions."

The original camera package included two Panavision XLs, a Panastar for high-speed footage, and a Pogocam for energetic handheld work — all configured for Super 35 with Primo lenses (including a set of Primo close-focus primes, as well as 11:1, 4:1 and 3:1 zooms). "I convinced Michael to go with Super 35 because a lot of the fights happen with the camera less than six inches away from Will's face, and doing that with anamorphic lenses would be practically impossible. We were also moving quite a bit with a lot of handheld and wide-angle work, and anamorphic lenses just aren't friendly in that type of environment. I also felt *Ali* would benefit from the texture of a Super 35 print."

Eventually, the XLs were returned to Panavision in favor of Platinums. Lubezki explains, "The Platinums are Panavision's most reliable cameras, and when you're doing handheld work with a 1,000-foot magazine, the Platinum is amazingly balanced. It's one of the heaviest cameras [in the company's line], but



it's also the most balanced and quiet."

In addition to using film cameras, the filmmakers turned to the digital world to capture some principal imagery. Mann didn't want to be a passive observer of action during the fights; he wanted to put the cameras right in the middle of the action. Lubezki tested many different camera systems, ranging from the Aaton A-Minima and the Pogocam to high-definition and standard-definition video cameras.

Ring Leader

A pensive Ali prepares to do battle. Smith trained for a full year to get in fighting shape for the film.



In the end, Cinesite's Micheal McAlister created a rig with two tiny, surveillance-style lipstick cameras that fit into the palm of Mann's hand. "Micheal was very open and supportive of our experimentation," Lubezki enthuses. "During preproduction, we shot a lot of the sparring with video cameras, and Michael [Mann] wanted to get more and more into the action. In the end, Micheal McAlister created a system that we could put on Will's head or slip onto his kidney area. We got some incredible shots that we just couldn't get on film." (See sidebar on page 42.)

"They were really just surveillance cameras with very cheap lenses," Mann says with a laugh. "Their actual use is very pedestrian, and the optics are s**t! So we tried to get two bad pieces of optics that matched, and we did lots of testing before we managed to put together this little rig. The result is quite terrific — and we're not just limited

to 16-frame pieces! We were able to run at fairly long lengths, and the footage looks great. The whole rig was about the size of a matchbook, and it allowed me to run around with the actors. I could put the camera right behind somebody's ear or over his shoulder — basically, anywhere you could put a matchbook, we could grab a shot."

In addition to McAlister's rig, Lubezki turned to Sony's SP900 hi-def camera to shoot key night exteriors in downtown Chicago. During location scouts, he and Mann had shot digital-video (DV) footage of prospective settings, and the cinematographer began to fall in love with the imagery he was getting in that format with totally natural nighttime light. "It was a beautiful image, but it was also very noisy," he says.

"We wound up shooting three night exterior sequences in Chicago with completely natural light in hi-def. I went with that system because

of the shadow sensitivity and because of the way it looked. We were getting the equivalent [at a gain of +6dB] of 2,000 ASA. The camera is so sensitive to the shadows that we were even seeing the clouds at night. We would never have gotten that on film, even if we pushed 500 ASA film by two stops. The image is a bit noisy and has a slight ghosting because we went with a 360-degree shutter, but we loved it. Sometimes you have to accept anomalies like noise in order to get a beautiful image.

"Hi-def also has a different feel because the depth of field is so completely different," he continues. "We could never have gotten that feel with film at all. There is more depth perception. Even though there is less image in focus, the apparent depth of field is greater. It's so soft and so real. We also used the hi-def cameras in the subway tunnels in Chicago, again shooting entirely with existing light. Yes, the images are noisy, but I think that look is perfect for this movie. It

Real Time • All the Time

2K

Digital Intermediate

Drylab Film Finish

- Digital neg cutting
- Digital opticals
- Digital color timing

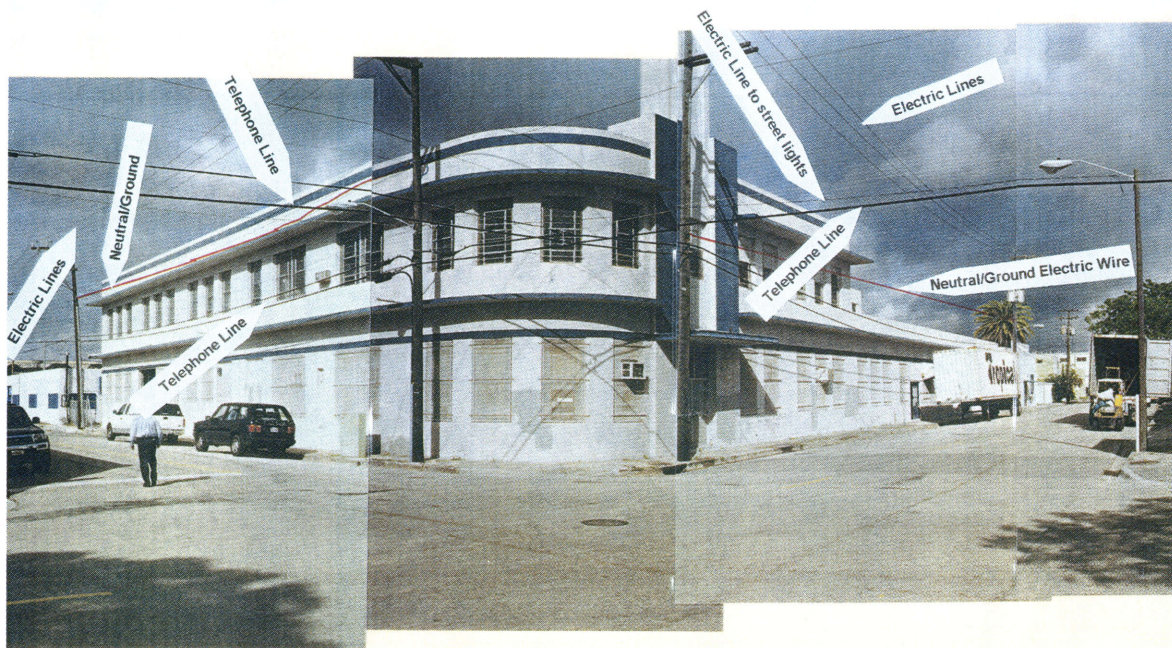
SDTV • HDTV • 2K DATA • DIGITAL CINEMA

THOMSON MULTI
MEDIA
BROADCAST SOLUTIONS

Thomson multimedia Broadcast & Network Solutions 2255 N. Ontario Street, Suite 150, Burbank, CA 91504 Tel : 1-818-729-7700 www.thomsonbroadcast.com

Ring Leader

One of the crew's most difficult locations was this site in the warehouse district of Florida, which Mann chose to represent the Fifth Street Gym, where Ali trained to fight Liston. These preproduction snapshots illustrate the logistical problems created by high-tension power lines that surrounded the building.



tells the story in the best way.”

Another of Mann’s directives was that the production should move with the energy and spontaneity of a guerrilla-filmmaking crew. “We always had the cameras ready to go. They were always at hand, because we went from Steadicam to handheld to other approaches, and Michael didn’t want to wait at all between changeovers. We had multiple cameras ready on every kind of rig.

“Anything that smelled like guerrilla filmmaking, Michael wanted,” Lubezki says with a smile. “Ironically, the overall production was the furthest from guerrilla filmmaking you could get — it was incredibly enormous. But Michael loves to move fast; it allows him to find certain ideas and angles that he otherwise couldn’t do. It’s more of an overall philosophy, an energy that feeds him.” In fact, while shooting in one tight location in Africa, the crew suddenly became aware that there was no room on the set for the boom operator. In a moment of inspiration and frustration, Lubezki simply grabbed the mic and boomed the shot himself. “That’s the kind of

energy Michael loved,” he says.

During the massive battery of prep tests, the filmmakers settled on an evolving look for all of the film’s fight sequences. “From the beginning, we wanted every fight to have a different look,” Lubezki explains. “Also, because the movie takes place over nearly 20 years of Ali’s life, I wanted the look to evolve as it did in reality. We spoke with a lot of the venue lighting designers who had actually lit the fights we’re portraying, and we talked about the changes in lighting over the years. They went from using all tungsten sources, which created a soft overhead look, to very hard mercury-vapor and Par lighting later on. I wanted to do all of that, so we established an evolution of looks from super soft to super hard and prepped for that.

“A couple of weeks before we started shooting, Michael called me and said, ‘Chivo, I’ve been thinking, and I found a photo that you have to see.’ He showed me a photo taken during Ali’s fight with Frazier. It really had nothing to do with what we were talking about during all of these tests, but Michael said, ‘I think we should go more this way, because

it’s more energetic and kinetic.’ We knew the fights had to be the most exciting moments in the movie because they were the most exciting moments for Ali. So we then went back to our notes and changed the whole concept for the picture. Everything we’d been preparing for went out the window; we had to change everything within two weeks. We ended up doing the boxing sequences with very hard, overexposed toplight. That might seem to be a mistake at first because the effect is so stylized, but when I saw a cut of the movie, it actually worked.”

Most of the fight sequences were lit with Par 64 lamps hung directly over the arenas. The units contained a combination of globes that ranged from very narrow spot focus to wide, some with diffusion and some without. Because the filmmakers were using multiple moving cameras, Lubezki didn’t use any lighting on the floor. Instead, he used the canvas beneath the fighters to provide natural bounce from the hot overhead sources. Principally, the overhead Pars played between six and seven stops overexposed, as Lubezki focused his attention on the

THE INTERNATIONAL FILM FESTIVAL OF THE ART OF CINEMATOGRAPHY
CAMERIMAGE

PROUDLY ANNOUNCES GRANTING
THE LIFETIME ACHIEVEMENT AWARD 2001
TO THE GREAT MASTER OF LIGHT

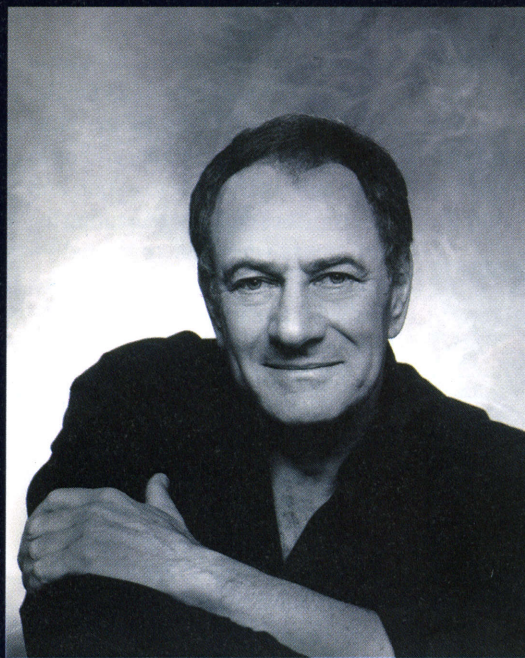


photo © Douglas Kirkland

OWEN ROIZMAN A.S.C.

DEAR OWEN,
WE CONGRATULATE YOU AND WISH YOU ALL THE BEST,
MAREK ŻYDOWICZ
CAMERIMAGE FESTIVAL DIRECTOR
&
CAMERIMAGE TEAM

1-8.XII.2001 ŁÓDŹ POLAND

A Left-Right Camera Combo

For the better part of this year, Cinesite visual-effects supervisor Micheal McAlister has been busy with two projects that define opposite ends of the cinematic spectrum: Jerry Zucker's *Rat Race* and Michael Mann's *Ali*. When not making cows fly for Zucker, McAlister was imbuing Mann's bio-pic with gladiatorial spectacle — a remarkable transition that was sometimes made within the

same workday. "I'll tell you, it requires access to schizophrenia!" McAlister says with a laugh. "There were days when I was on the sets of both shows, which required a fairly substantial shift of expectations and disposition, especially in terms of creating the spectacle and the emotional tension within *Ali*. It was a very good workout, and something I'd never had to do before."

Cinesite, under McAlister's supervision, was hired to create about 70 visual-effects shots for *Ali*, which included filling in the large boxing crowds (sometimes adding as many as 80,000 people to a shot) and in some cases digitally generating the vast arenas where Ali competed — including the Houston Astrodome, Madison Square Garden and the Kinshasa Stadium in Zaire.

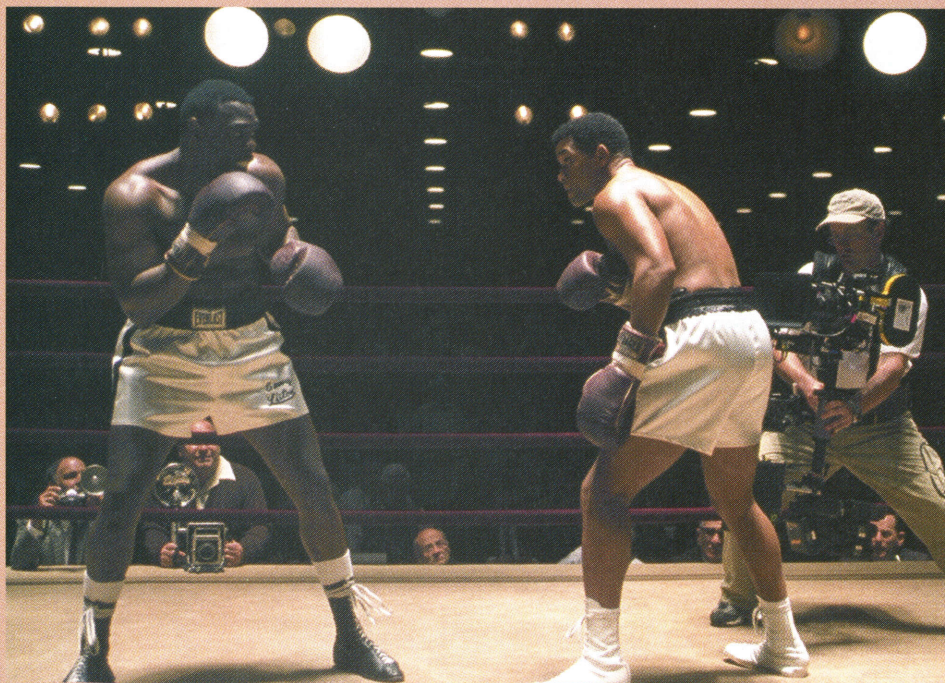
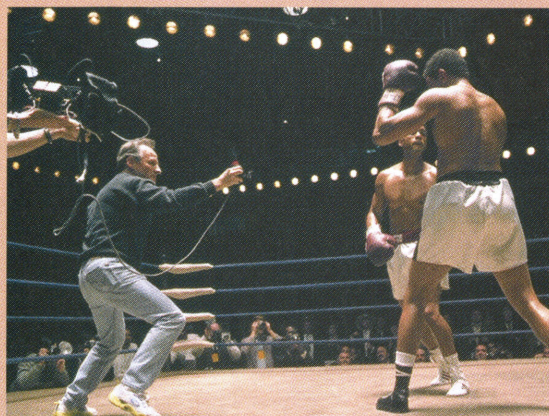
But Cinesite's contributions took an unexpected turn when Mann said he was searching for alternative ways of photographing the fights themselves. "Michael was very interested in getting in there with the camera and being a fighter, so that the audience would be brought *inside* the action rather than staying outside and looking *at* the fight,"

McAlister explains. "He experimented with all kinds of different cameras, hi-def and video, to try to find a way to make the machinery small enough and put it right in the midst of the action."

Although Mann may have considered using a lipstick camera, McAlister's mind was already racing with the possibility of using not one but two Elmo CC491 cameras to approximate the film's 2.35:1 widescreen format. "I pitched the idea that it would be possible to use two Elmo cameras, because the aspect ratio of a video frame is a little bigger than half the aspect ratio of a 2:35:1 frame," he recalls. "I realized that if we put the two cameras side by side, we'd have about a 10-percent overlap in the middle where we could digitally stitch the two images together. That idea came about from my involvement early on in testing the various video formats with Michael and [cinematographer] Emmanuel Lubezki, and bringing to the table what I knew we could do here at Cinesite."

"The only visual-effects aspect of this rig was stitching two images together, and that's a no-brainer in the digital world. I built a prototype of the rig in my garage workshop, and Michael agreed that it looked as though it would work. I then had a machinist build a rig so that the cameras could be aligned very precisely with each other."

The tiny Elmos, which are used primarily for industrial applications, were 2" long and 5/16" in diameter. The size of the lenses — only slightly larger than the end of a pencil — concerned McAlister. "I was especially concerned that those teeny lenses might not have high enough quality to get the sharpness that we'd



Top photo: Mann moves right into the fight with the tiny dual lipstick-camera rig designed by Micheal McAlister. Bottom photo: For other scenes in the ring, the crew took a more conventional but equally active approach. Here, Steadicam operator Jimmy McConkey circles the actors.

need on the big screen, and also that they might distort the image so much on the periphery of the frame that they'd create a massive distortion at the edges where the two frames joined together. But it turned out that the Elmos had very flat lenses, and we were able to create software at Cinesite that mapped out and removed any distortion that was present. We did some tests to see if we could detect where the stitch was, but it was flawless."

Once coupled together, the twin cameras were connected by a cord to a control box that contained a battery and was mounted on Mann's belt. A radio transmitter inside the control box beamed images to satellite dishes positioned around the various sets. "We called it the 'Dual Elmo Rig,'" McAlister says. "It was slightly larger than a cigarette lighter. Michael literally held a camera that was smaller than his hand. While Will Smith and the actors playing Ali's opponents were fighting, Michael was dancing around the fight, putting his hand wherever he wanted it to be. His hand became the camera, and he could place it up against a boxing glove or against a neck, a cheekbone or a hip. He could go around a fighter's neck and get right in there as though the camera itself was one of the fighters. The footage captured by that system was phenomenal."

In terms of technical quality, however, the footage at first wasn't quite up to snuff. McAlister decided to use PAL-resolution cameras, which have a resolution considerably greater than North America's NTSC standard. "It turns out that with the double PAL images, the resolution itself was only slightly less than typical film resolution as you go through the digital process," he explains. "Standard film resolution for digital effects is about 2,000 lines of resolution, and the dual Elmos gave us about 1,400-1,500 lines. We were able to up-rez it when we went

back to film, and the very nature of the imagery — lots of motion and blurred shots — made it very forgiving of the limited resolution. We did get aliasing from the bright lights on the ceilings, but we got rid of that problem after the fact."

The biggest problems encountered with the dual Elmos were the limited color depth and reproduction of the original captured image. "Michael chose to capture via radio transmission to ensure absolute mobility, rather than having hardwires that he might trip over hanging directly off the camera system," McAlister explains. "Unfortunately, that meant there was going to be some compression of the video image. The already limited color range of video was compressed slightly more, so we had to apply a lot of color science. We went in and split out the color spectrum of what was captured, then suppressed certain bands of color and enhanced others to get a more natural-looking palette. Although the shots will never actually match the film, which captures so much more subtlety, they match pretty darn well. Filmmakers who study it will see a difference in the images, but I don't think the average viewer will notice. Michael made it clear that he was willing to accept slightly lesser quality in order to get the camera into places he otherwise couldn't."

McAlister's rig has the potential to radically alter the way filmmakers capture action; it seems likely that only an effects artist whose roots are in the photochemical world and whose imagination reaches far into the digital realm could have envisioned it. "People might not even remember that it was my idea, but that's okay," he says philosophically. "At the end of the day, the rig is making a contribution to a creative endeavor that I find fulfilling."

—Ron Magid

**Now that you have
your B.A. degree...**



**...come here to make
your movie and earn
an M.F.A. doing it!**

Did you know that you can earn a **Master of Fine Arts Degree in Motion Pictures**? The Academy of Art College gives you access to the cutting edge cameras, digital editorial and post facilities to make your film, under the guidance of industry-active instructors. Give us a call, we'd be happy to give you the tour. **Flexible daytime, weekend and night classes.**

Summer, fall and spring enrollment

ADVERTISING | GRAPHIC DESIGN | FASHION
FINE ART | COMPUTER ARTS | ILLUSTRATION
INDUSTRIAL DESIGN | INTERIOR ARCHITECTURE
MOTION PICTURES & TELEVISION | PHOTOGRAPHY

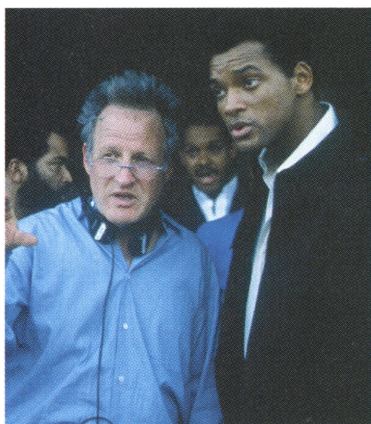


www.academyart.edu
1.800.544.ARTS

AcademyOfArtCollege
79 New Montgomery St. S.F. CA 94105

Ring Leader

Right: Ali is surrounded by an adoring public while training for the Foreman fight in the African nation of Zaire. Below: Mann and Smith confer on location.



shadow areas.

Some prep time was spent on determining the exact color and density of the ring's canvas to provide the proper amount of bounce without overexposing the shadows and allowing the look to become overbearing. In the end, Lubezki chose a shade of brown just below middle gray that read nearly white on film from the hot, hard overhead sources, but provided exactly the right amount of bottom fill to balance the image. "I pretty much let the whites go," the cameraman admits. "In the beginning, we

talked about not using white in the movie at all, because it's so difficult to light dark skin and shoot it against white. Our research revealed, though, that every place we wanted to shoot was white and everybody wore white, so we had to go with that.

"Fortunately, Kodak stocks hold overexposure so well that even if you want to burn things out and lose detail, you really can't! You have to start going into CCE or ENR to increase the gamma and make the curve steeper. On the first day I used my spot meter like crazy, but after seeing the dailies I realized I really couldn't go too far on overexposure, especially on dark skin." Toplight thus became the order of the day for Lubezki, who is typically known more for the super-soft sidelight in films like *Meet Joe Black* and *A Little Princess*.

The majority of *Ali* was shot in tight practical locations in California, Chicago, Miami and Africa, and the production typically moved to a different location each day. Lubezki notes that it would have been impos-

sible to pull off such a schedule without careful prep and an extremely talented crew. "Gaffer John Buckley, rigging gaffer Gary Dahlquist and key grip David Merrill in particular were invaluable," he says. "We could not have achieved what we did without them."

In addition to the challenges posed by the variety of locations, the guerrilla-style shooting and the multiple-camera setups, most of *Ali*'s actors were quite tall. "We had sometimes seven actors in a scene, all of whom were six feet or more!" he exclaims. "These enormous guys were all crammed into tiny rooms, really close to the cameras. Eventually, all of these factors began to dictate the style of the film. I knew that the camerawork and editing were very intricate, but I didn't want the movie to be too baroque. I therefore tried to simplify the visual approach as much as possible, which led me to light as many scenes as I could with just one source."

Continuing the experimentation that he'd begun with director Alfonso Cuarón on a small movie

Give a Gift... Get a Gift!



A subscription to *American Cinematographer* makes the perfect holiday present for your friends, colleagues and business associates. Each month, they will appreciate your thoughtfulness when they receive a new issue filled with in-depth articles, commentary by the industry's top professionals, and new equipment and service showcases. They will also gain access to special areas of the AC Web site reserved for paid subscribers.

Since you're a current subscriber, we would like to offer you an additional bonus: for each gift subscription you place between now and December 31, 2001, you will receive an official *American Cinematographer* T-shirt. Take advantage of this special holiday offer today and check one more person off your shopping list!

CLUBHOUSE SPECIAL:

**Subscribe for 3 Years and
Receive the 4th Year FREE!**

☐ Please send my gift order for **4 years**
(48 monthly issues) for just **\$89.95** (3-year price)

☐ Please send my gift order for **2 years**
(24 plus 2 bonus issues) for **\$59.95**

☐ Please send my gift order for **1 year**
(12 monthly issues) for **\$29.95**

Payment:

Charge my

☐ Payment enclosed

☐ Visa

☐ M/C

☐ Bill me

☐ AmEx

Card #

Exp.

Signature

Phone ()

(required)

Gift Recipient

(PLEASE PRINT)

Name

Address

Apt. #

City

State

Country

Zip

This gift is from

(PLEASE PRINT)

I AM A PAID SUBSCRIBER

Name

Address

Apt. #

City

State

Country

Zip

T-shirt Request:

Color: ☐ Grey ☐ Black

Size: ☐ M ☐ L ☐ X-L

**Offer expires
December 31, 2001.**

To subscribe by phone:
(U.S. only) **1.800.448.0145**
all areas **323.969.4333**

Fax subscriptions:
323.876.4973

Or subscribe online at:
www.cinematographer.com

Ring Leader

Archival photographs were often used to help Mann and the crew during the director's obsessive quest for highly precise realism. Here, Mann compares actors LeVar Burton and Mario Van Peebles to their real-life role models: Martin Luther King, Jr. and Malcolm X.



called *Y Tu Mamá También*, which he had shot just before *Ali*, Lubezki relied primarily on Kino Flo sources to light practical locations. "Using Kinos so prominently is a major departure for me, but their size and the simplicity of mounting them made sense. After shooting *Sleepy Hollow* [see AC Dec. '99], I did two

little movies with some of my friends, and I was really trying to do something different on those projects. I wanted to get away from soft sidelight and experiment a little more, so when I started *Ali*, it almost felt like another step in that new direction. Even if I'd wanted to use more sidelight in *Ali*, it would have

been impossible because of the multiple cameras, the practical locations and so on."

Lubezki adds that he also used much more hard light than he had before. "We wanted this film to feel naturalistic, even if it meant a scene had to look a bit 'ugly.' We were fighting to get texture, too. In some movies you don't want to see the pores and sweat on an actor's face, but we wanted to see all of that in *Ali*. We wanted to exploit those textures and make them even rougher to fit in with the overall look and style of the movie. I tried to eliminate any lighting that would create a look that was too affected or artificial."

The crew confronted an especially challenging location in the warehouse district of Florida, where Mann had chosen a site to represent the Fifth Street gym where Ali trained to fight Liston for the heavyweight title. Once again taking his cues from Bingham's photos,

SCRUBS	ENOUGH	GILMORE GIRLS	DOCTOR T AND WOMEN	CBS	SHOW TIME	RED LINE
SIX FEET UNDER	SAAB	AMERICA'S MOST WANTED	SHOW TIME	CHARMED	CALIFORNIA LOTTERY	CASTLE
BLACK SWAN	SCORCHED	THE ROSA PARKS STORY	51st. STATE	BUFFY THE VAMPIRE SLAYER	YOUNG AMERICANS	OCEANS 11
FOX SPORTS	IMAX	STAR TREK	TRAINING DAY	ALI	PLANET OF THE APES	STATION NORD
VIP	PEACHES & CREAM				RUSH HOUR II	L. VANDROSS
CRIME PREVENTION	BUDWEISER				DRIVEN	KEEBLE
SWORD FISH	ANGEL				MEN IN BLACK II	ALIAS
TIME MACHINE	SCARY MOVIE II	K 19	BAND OF BROTHERS	WEST WING	ANGEL EYE	MOTHMAN
COLLATERAL DAMAGE	TIGERS	DM2	EXIT WOUNDS	ORANGE COUNTY	THE HUNTED	PREGO
"GROSSE POINTE"	QAF4	HUNTRESS	FELICITY	PANIC ROOM	WE FIT TOGETHER	WORST CASE SCENARIO
PIZZA HUT	KFC	DEATH TO SMOOCHY	BLACK SHEEP	CAMPBELLS	ROMEO	BACKSTREET BOYS
FORGOTTEN VALOR	DREAM	(818).780.2708 www.hotgears.com			ANGIE STONE	UNCONDITIONAL LOVE

Lubezki wanted to light the gym from the windows. However, high-tension power lines surrounded the location. "When I saw all of the wires, I said, 'This doesn't work. We either have to build this on stage or look for another location,'" Lubezki recalls.

But Mann insisted on shooting at the site. The production crew therefore began to investigate the logistics of temporarily removing the high-tension wires to gain access to the second-floor windows, but some of the cables provided power to the entire district, and the expense of removing them was well beyond what the production could afford. Lubezki says the crew solved the problem by shooting master shots early in the morning, using natural light and enhancing it a bit on Smith's face; when natural light began to fade, the crew brought in Condors, scissor lifts and an array of lights to light the space from outside.



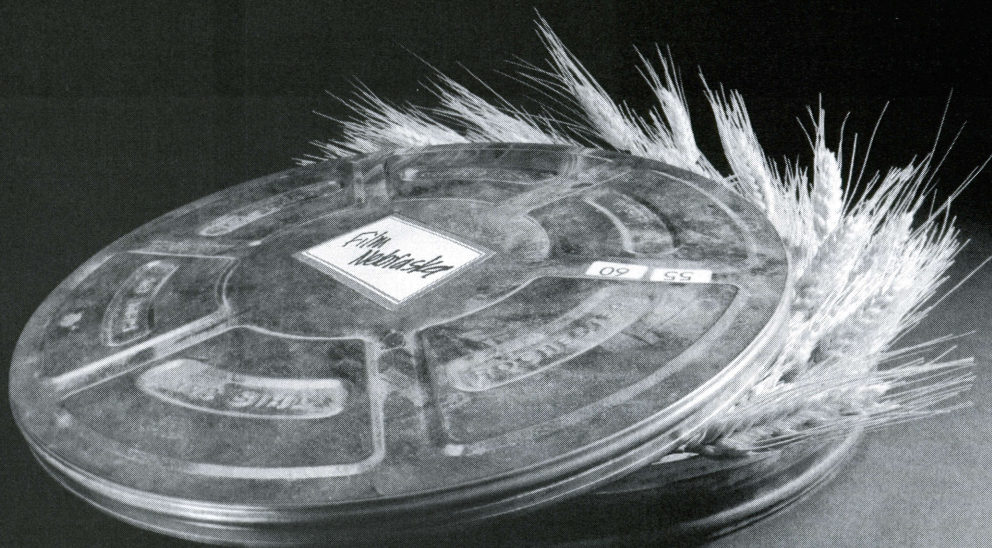
According to gaffer Buckley, the equipment outside consisted of four scissor lifts holding two 18Ks each, two scissor lifts holding two 18Ks and a 7K Xenon each, and two Condors holding a 7K Xenon each. "We had to position them about 25 feet from the building," Buckley recalls. "The power lines were actu-

ally shut down for a short time, but we still needed to be a certain distance away from them in order to be safe."

The majority of *Ali* was photographed with Eastman Kodak Vision 200T 5274 stock for daytime sequences and Vision 500T 5279 for nighttime sequences, but Lubezki also turned to Fuji Super-F 500T 8572, pushed one stop and rated at 1,000, for flashback sequences. "I liked the way the grain structure looked when I pushed the Fuji. The texture works in a subtle way to help the audience differentiate between the flashbacks and the present. Also, the Fuji responds to the push with a very full negative. With a push on Kodak, the lights will usually come back in the mid-20s, but with Fuji they came back in the low 40s. I could have almost rated it at 1,200." (Dailies were printed on Kodak Vision Premier release stock.)

Lubezki says Mann's desire to

Lubezki found *Ali* to be an intense and demanding experience.





**NOW
AVAILABLE!**

Custom LAB
from Tiffen with
customized AC Logo
\$120.00

Custom LAB
from Tiffen with
customized ASC Logo
\$120.00

Want to carry your laptop in a bag with some PUNCH? ...carry it in style with the LAB!

The main compartment of the LAB has a padded partition for a laptop computer (adjustable for all common laptop types and sizes), with space for charger, cable, external drives and other accessories. Inside are mesh pockets plus an additional zipper compartment for papers, binders, etc. External pockets hold personal items which include pens and pencils.

The entire bag is padded, and its structure and opening method permit quick and easy storage and removal of the computer and its accessories...the quickest and easiest on the market today!

www.cinematographer.com

Special limited-edition item. Allow 6-8 weeks for delivery.
Order now as quantities are limited.

Ring Leader



The crew captures a shot of Ali surrounded by a media throng.

achieve as much realism as possible led to one of *Ali*'s most beautiful moments, which depicts a particularly powerful moment in the fighter's life. "It's a scene in which Ali is going to Africa for the first time, and during the flight he wakes up in the middle of the night and walks into the cockpit, where he discovers that the pilots are African. He suddenly realizes that in Africa, black men are not a minority and are not repressed; he sees that they're pilots, lawyers, doctors and presidents, and it gives him an incredible feeling. As he realizes all of this, dawn is breaking, and he sees the first light of day rising over the coast of Africa for the first time.

"When I first read that scene, I started thinking about building a plane on stage and shooting against greenscreen, but once again, Michael wanted the scene to be real. We found a period plane to fly off the coast of California, and we went up before dawn with the crew. We didn't have time to rig much on the plane, but we put up some Kino Flos and got set to do the first shot. Just as we were ready to go, all of the movie lights suddenly went off. We only had about 10 minutes to get the shot before the sun came up, and when one of the actors opened a window

DARIUS KHONDJI, ASC, AFC



*“From very early on, I remember being so excited reading in **American Cinematographer** how films were really made and about the people behind them.*

Much more than a great technical magazine, I see it as a fantastic way of communicating with other filmmakers, a way to share our emotions and excitement about cinema.”

— Darius Khondji, ASC, AFC

©photo by Owen Roizman, ASC using Kodak DC 4800

TO SUBSCRIBE BY PHONE:

Call (800) 448-0145 (U.S. only)
(323) 969-4333 or visit the ASC web site

American
Cinematographer

**NOW
AVAILABLE!**

ASC VIDEO MANUAL

3rd Edition

HISTORY: The ASC Video Manual, Third Edition, follows in the tradition of the earlier, highly successful video manuals published by the ASC. This new edition incorporates and updates the best segments from previous ASC Video Manuals and adds new information about emerging digital technologies.

FIELD GUIDE: Learn how to create video productions, work with digital audio sampling, why time code is important in digital productions, how to select the right digital camera, and much more. Everything for the novice right up to the pro level.

TOPICS: The Video Camera, Digital Video Formats, Camera Filters, Digital Test & Measurement, Lighting, Batteries, Digital Audio for Video -- and much more.

REFERENCE: Includes photographs, charts, diagrams, schematics and a comprehensive glossary.

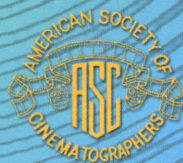
ABOUT THE AUTHOR: Michael Grotticelli is uniquely qualified to edit this book. He has been covering the professional video industry for more than 12 years. His credits include: Technology/New Media Editor at Broadcasting & Cable; Editor of Television Broadcast; News /Technology Editor of TV Technology; and Managing Editor of Videography.



American
Cinematographer

VIDEO MANUAL

3rd
edition



EARLY BIRD SPECIAL!

~~\$49.95~~ **\$39.95**

Paperback

ISBN 0-935578-14-5

464 pages

Actual size 4" x 7"

www.cinematographer.com

Recalling the sequence, Mann notes, "It's an amazing shot, and we let it play entirely in one shot with no cuts. The sun had just risen, and there was golden light coming through the windows. We just followed Will with a handheld camera as the door opened and he walked into the cockpit, and it wound up being a wonderful moment." ■

The Ultimate Self-Destruction



A merciless villain attempts to eliminate his many doppelgängers in the sci-fi adventure *The One*, an action-packed trip through parallel universes.

by David Heuring

Unit photography by Peter Iovino and Frank Masi, SMPSP

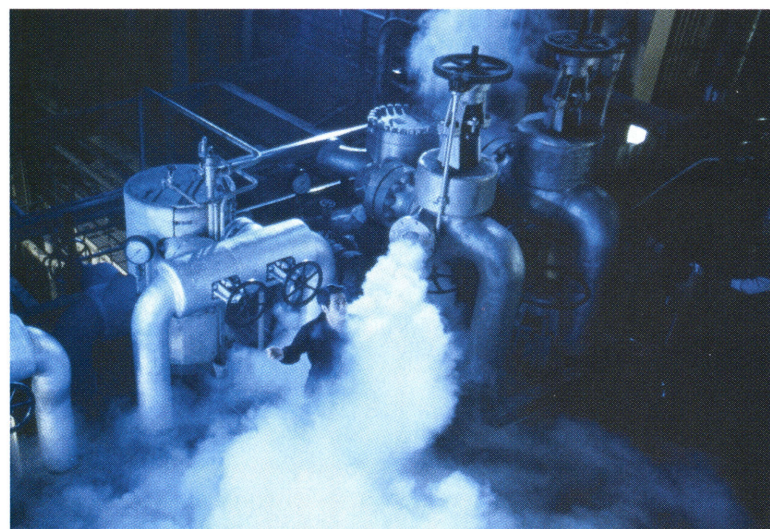
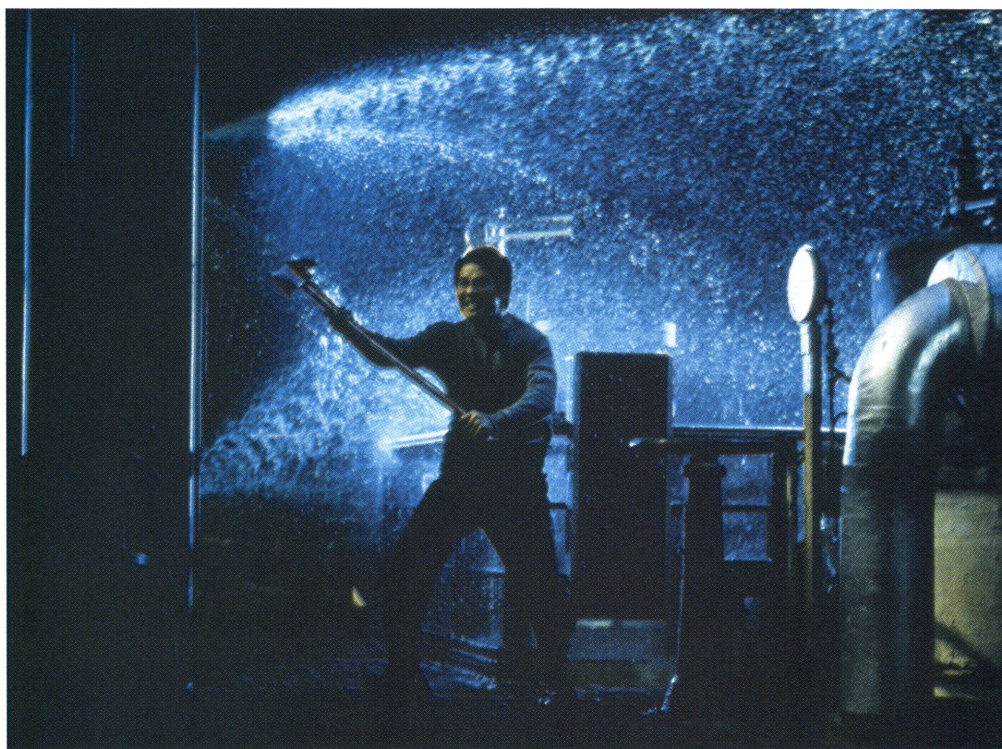
The idea at the heart of *The One* is a classic sci-fi concept: dozens of parallel universes exist, each with a version of every person. The film's hero, Gabe (Jet Li), lives in a slightly futuristic universe not unlike ours. The villain, Yulaw (also played by Li), has found a way to travel between universes. By killing his doppelgängers in other universes, the villain gains strength. If he is able to liquidate the "good" Gabe, he will be unstoppable. Meanwhile, agents

of the “multiverse authority” are pursuing him. To make matters even more intriguing, the tale takes place over the course of a day and a half.

The One is directed by James Wong and co-written by Wong and Glen Morgan. The duo was behind many definitive episodes of *The X-Files* and *Millennium* and also collaborated on the feature *Final Destination*. *The One* reteams Wong with Rob McLachlan, CSC, with whom he'd collaborated on *Final Destination* and *Millennium*. The cinematographer earned a CSC Award and an ASC Award nomination for his most recent project, the cable telefilm *High Noon*. “It’s such a great working relationship,” says Wong. “We have a really good rapport, and I feel very comfortable on a set with Rob, who is calm and cool. The atmosphere on set is a big part of how we work.”

To finish the ambitious sci-fi adventure in the allotted 75 days, the filmmakers had to average more than 20 setups a day, including numerous complicated greenscreen and motion-control shots. Working in their favor was a 10-week prep period. “I’m a big proponent of intense and extensive prep, even though I don’t much enjoy it,” McLachlan notes. “I’m always relieved to be able to stop talking and start shooting. During our prep period, I was able to visit the locations repeatedly with Jim, all the while discussing the look. We had many discussions about how to accomplish the effects, many of which hadn’t been done before, and we shot extensive tests at the locations. More importantly, we planned the lighting and rigging in detail.”

Early discussions about how *The One* should look covered a wide range of techniques and processes, including silver-retention and cross-processing. “We wanted to make each universe distinct without them being so separate that they’d look like different movies,” says Wong. “It was



a balancing act, and we did a lot of tests. It came down to the palette we chose, rather than some sort of chemical process.”

Effects were accomplished in-camera whenever possible, but the show features many digitally enhanced shots. The filmmakers plan to put the film through a digital-intermediate process at Cinesite Hollywood. Portions of the film will be scanned into 2K digital files using the Philips Spirit DataCine, and the

filmmakers will put the final touches on the various universes. (See sidebar on page 60.)

McLachlan says his goal in lighting *The One* was to fashion a style “with some contrast, snap, depth and mood that wasn’t labor- and time-intensive. Jim likes to do a lot of coverage, so I tried to plan lighting that we could turn around quickly and repeatedly. Corey Yuen, the action choreographer, didn’t think we’d ever be able to accomplish

Opposite page:
The film’s opening sequence, in which an inmate (Jet Li) is marched down a futuristic prison hallway by a phalanx of guards, is repeated onscreen — with different lighting and set dressing — to convey the notion that the action is unfolding in separate and distinct universes. This page: Li battles his evil twin in the picture’s climactic sequence, which was staged in a retired power plant adjacent to King Harbor in Redondo Beach, California. Spray and smoke effects were used to enhance the setting’s ambience.

The Ultimate Self-Destruction



Li's good and evil sides duke it out on a catwalk in the power plant. "Much of the initial part of this fight took place on the catwalk, and we got some spectacular shots looking back through the whole plant," McLachlan says. "The catwalk was a pain to work on, but it turned out to be a godsend for lighting. Without it, it would have been impossible to rig anywhere."



what was planned in time, but we had Gary Hymes' stunt crew pre-rig all of the wire pick-points and rehearse heavily. By combining that with a really fast crew and a lighting plan that was easy to turn around, we kept a pretty impressive pace for a movie this size."

One of McLachlan's primary concerns was avoiding the flat lighting that characterizes so many action scenes that involve visual effects. "It's easier continuity-wise if action scenes are all one tone and don't have a lot of contrast and character, but we didn't want this film to look like that," he notes. "I've never worked so

hard trying to maintain some consistency.

"I find a lot of action movies to be really overlit," he adds. "I don't have to see everything. I like texture and don't mind having lots of black. It's more natural, and it creates a sense of depth."

McLachlan adds that the success of the shoot was also attributable to his own pre-rig crew: gaffer Jeff Murrell, rigging gaffer Frank Dorowsky and key grip Mike Anderson. "They and their crews were fantastic. Not only was everything in place, but they usually provided alternatives for eventual-

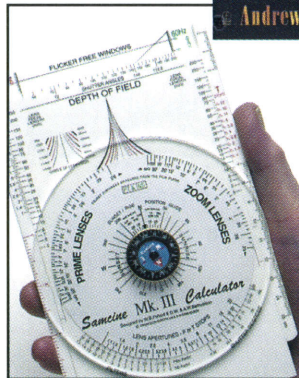
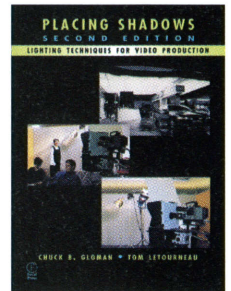
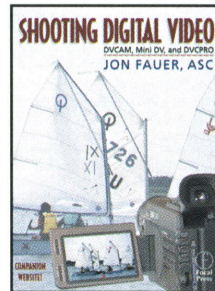
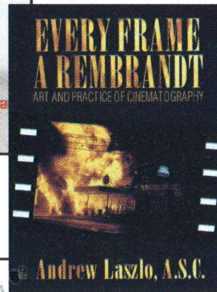
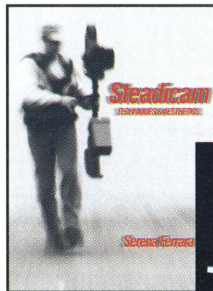
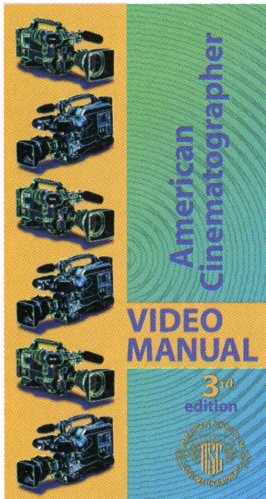
ties we might have overlooked. An extensive pre-rig also gives you the luxury of allowing the actors to block and rehearse in something close to the final lighting tone. Plus, it allowed us to begin fine-tuning right away, which was good for the actors because they weren't sitting around for ages after the initial blocking rehearsal. It was possible to create some momentum that fed on itself and kept everyone sharp."

Lighting-board operator Scott Barnes recorded every lighting setup down to the finest detail and maintained a running archive. A still shot was usually grabbed during rehearsal, printed out and catalogued. The placement and intensity of lights were documented, along with camera information. Barnes scanned in plans that the art department generated for each of the sets and combined this information with the lighting schematics. If a shot needed to be duplicated later, it was a matter of checking "the bible."

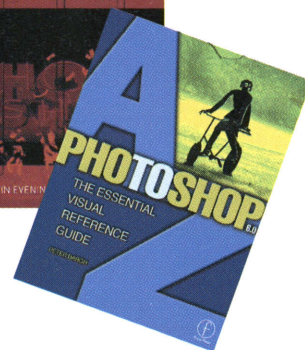
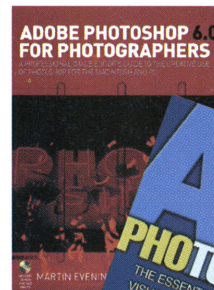
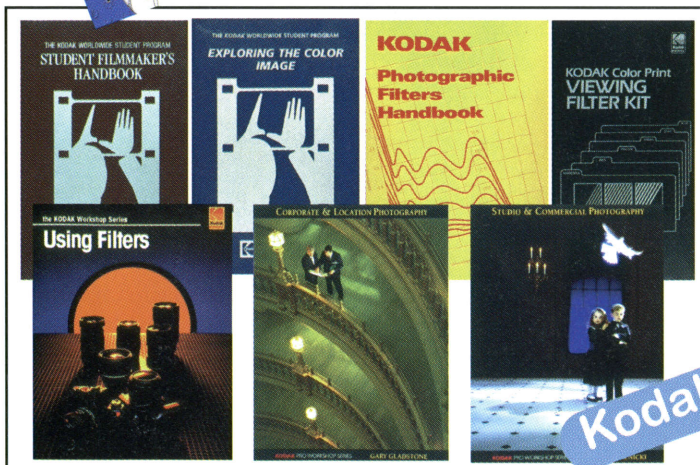
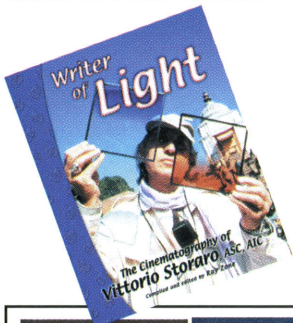
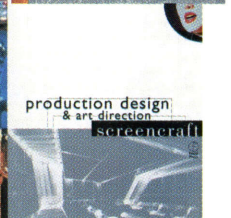
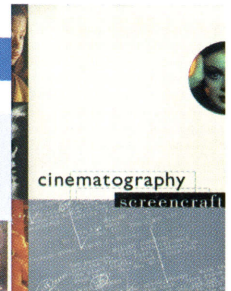
Li brought his Asian stunt team, led by David Lai and Yuen, onto the production. This team collaborated with a crew of American wire riggers led by Hymes, and the cross-pollination of techniques resulted in a number of unprecedented stunts. "Jim didn't want the floating, *Crouching Tiger*, *Hidden Dragon* style of movement; ours is much more grounded," says McLachlan. "The hard part is making it feel like it's the characters' superhuman strength, rather than a magical force, that's moving them."

The filmmakers experimented to determine the best frame rate for the martial-arts sequences; the fact that many of them would be digitally manipulated allowed a degree of freedom. The standard used in Hong Kong, developed over years of fight films, is 22 frames per second. Many of the sequences in *Crouching Tiger*, *Hidden Dragon* were reportedly shot at 21 fps. "In all of our tests, it looked like 22 was going to be plenty, partly

Gift ideas for the holidays from the ASC



Screencraft Series



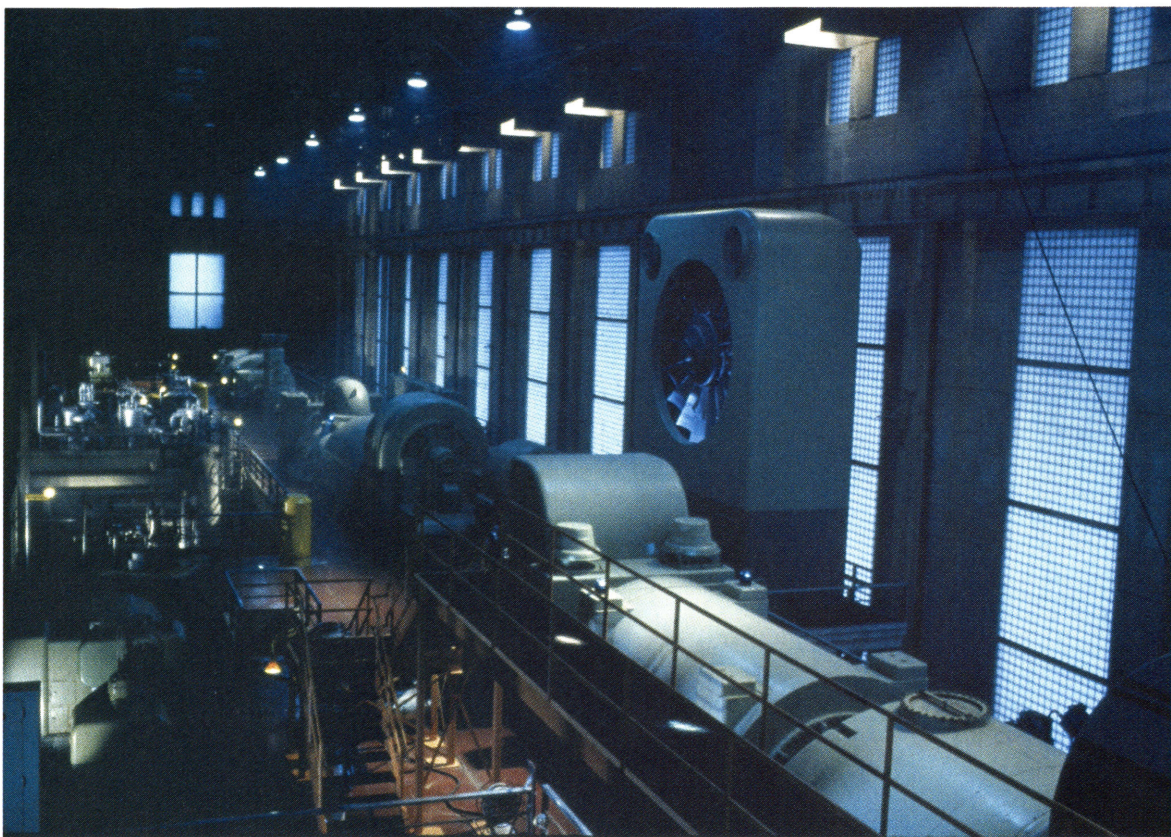
To order, visit our online store at :

www.cinematographer.com or call (323) 969-4333

For more information on Focal Press titles go to www.focalpress.com

The Ultimate Self-Destruction

Right: A wider view of the power plant. Below: Some of the action scenes were shot against greenscreen. McLachlan's lighting scheme for this setup is detailed in the diagram on the facing page.



because Jet is so fast," says McLachlan. "Anything beyond that starts to look sped up and a little bogus. The problem is that 22 fps is not an HMI flicker-free speed, and because we might shift the speed of certain shots and introduce ramps in post, we're shooting that material at 60 fps. That's the beauty of putting all this stuff through visual effects; they can choose the frames they want and turn them into 23, 22 or 21, depending on how it looks."

Cooke lenses are usually McLachlan's preference, but on *The One* he mainly used Zeiss glass, which he says rendered a nice, crisp look. "We used Eastman EXR [200T film] 5293 because that's what the special-effects people preferred," says McLachlan. "It's a spectacularly beautiful stock, and using it meant we didn't have to switch for the greenscreen material. I try to avoid mixing stocks when possible. I used [Kodak Vision 500T] 5279 for all of the night exteriors."



The One opens with a bang. As the police march an inmate, Ronnie (played by Li), down a prison hallway, the inmate is suddenly assassinated by a character who is also played by Li. The scene is followed by a strange interlude in which the characters are sucked through a portal. "Then we cut back to what seems to be the first shot in the movie," says McLachlan. "It's almost like the

projectionist has mixed up the reels and put the same one back on, but there are subtle differences in the production design and the photography. I'm sure some people will say, 'Wait a minute, the movie's starting over again.'"

Of course, this tactic introduces the parallel-universe concept visually, and McLachlan's lighting helps delineate the two worlds. In the

SHOT INFO

DAY: 35
03/19/2001
SCENE: V261.3A
POWER PLANT - INT. - DAY
5293 ASA 160
SHOOTING STOP - 2.8⁷

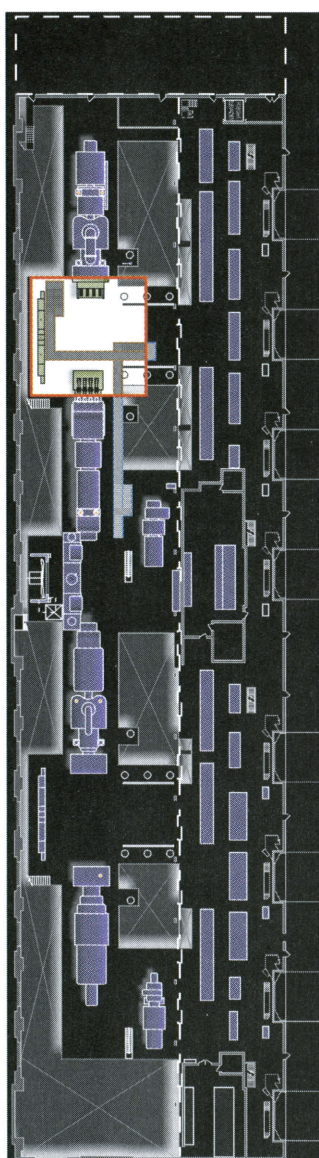
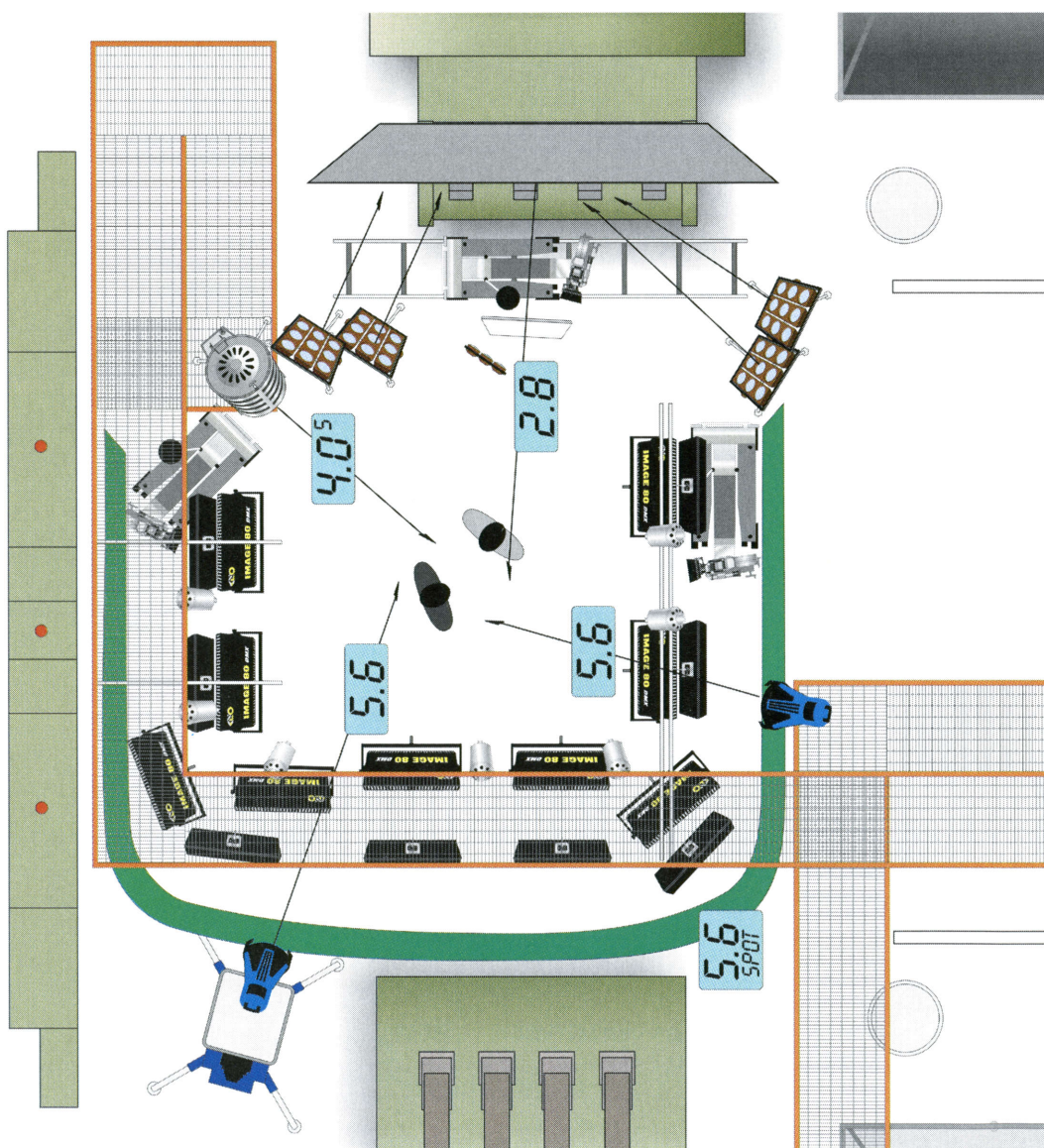
KEY



THE ONE 310 3HT

POWER PLANT

DIRECTOR JAMES WONG	DIRECTOR OF PHOTOGRAPHY ROB McLACHLAN
CHIEF LIGHTING TECHNICIAN JEFF MURRELL	CHIEF RIGGING TECHNICIAN FRANK DOROWSKY
	BOARD OPERATOR AND PLOTS SCOTT BARNES



The Ultimate Self-Destruction

The mysterious assassin demonstrates his superhuman speed while eluding the police. In this portion of the sequence, Li was lit with a helicopter-mounted searchlight and the road was illuminated by a Bebee Light containing 15 6K Par units (see diagram on opposite page). To capture the scene's "money shot" — a police driver's POV of Li running away at 50 mph — Li was placed on a treadmill towed by a trailer, and McLachlan ramped his camera down to 12 fps while firing strobe lights suspended from a truss rig positioned roughly 8' from the actor. This footage was later digitally printed back to 24 fps so it wouldn't look undercranked.



universe in which the movie opens, McLachlan used Calcolor lavender gels on an HMI lamp to create a fantastic purple hue. "Purple's not something you see a lot of in movies," he notes. "In the tests, we looked closely at the Calcolor lavender gels, which are a calibrated color made by Rosco. [Cinematographer] Mark Woods was instrumental in helping them develop it. The colors — green and magenta, or blue and orange — are all calibrated to complement each other, and they're perfectly balanced to the way film sees color. The system allows you to use a palette, and if you want to shift the color one way, you can use the color charts and have the lab print it in a predictable, controllable way.

"I've been trying to do something similar for years," he adds. "It's always been difficult to make lavender on film because of the way film responds to that wavelength. We played around with the Calcolors on HMIs and underexposed things a bit so the colors would be rich; that gave us a fabulous tone. We used that system for the opening sequence, and for the second, parallel sequence we went back to a more familiar

mercury-vapor, uncorrected fluorescent look."

The sequences were shot in two different cell blocks. They are almost identical, with slight variations in how they are dressed and lit. In Universe A, all of the practical lights in the cell and all of the fluorescents were wrapped in the lavender #6 gel. A small amount of clean HMI light and uncorrected cool white fluorescent light was mixed in. "We had to give the scene a different feeling than the others," McLachlan explains. "We needed something extra down the hallway, and because it was a practical location, we couldn't get much light into it. In a spur-of-the-moment move, we ran a strip of Kino Flos along the floor. That produced a nice, hot source in the frame."

Some of the subsequent action takes place in a parking garage. These scenes were filmed at stages in the former Unocal building in downtown Los Angeles. "We used 60 Kino Flo Image 80s with eight four-foot tubes in each fixture, and all of the lights could be individually controlled," McLachlan details. "We put them in every cement bay over-

head so we could make the setting really bright, mainly to create some contrast. The script called for a sudden, dramatic light shift as the lights go out; obviously, some lights had to stay on to illuminate all of the action. We pre-hung several 5Ks in the rafters to add kickers and edges on the actors, and we play them as if they're the emergency lights coming on. It's a way to get a picture with a lot of snap in a hurry.

"I knew we'd have a lot of angles and that we'd have to move quickly," he adds. "By having all of those units wired into the dimmer board, each of the eight tubes could be controlled. I went around with my meter and got absolutely the base level we could work at, which in most cases meant that every third unit had one tube on. We added a bit of smoke — supposedly exhaust fumes — to help the gun flashlights show up and to help create separation quickly. We had cool lights in Universe A, and in Universe B we had uncorrected, very blue 5600-degree Kelvin bulbs, closer to daylight. In the more familiar universe we used plain fluorescents, Chroma 50 blues and some tungsten-colored units. We

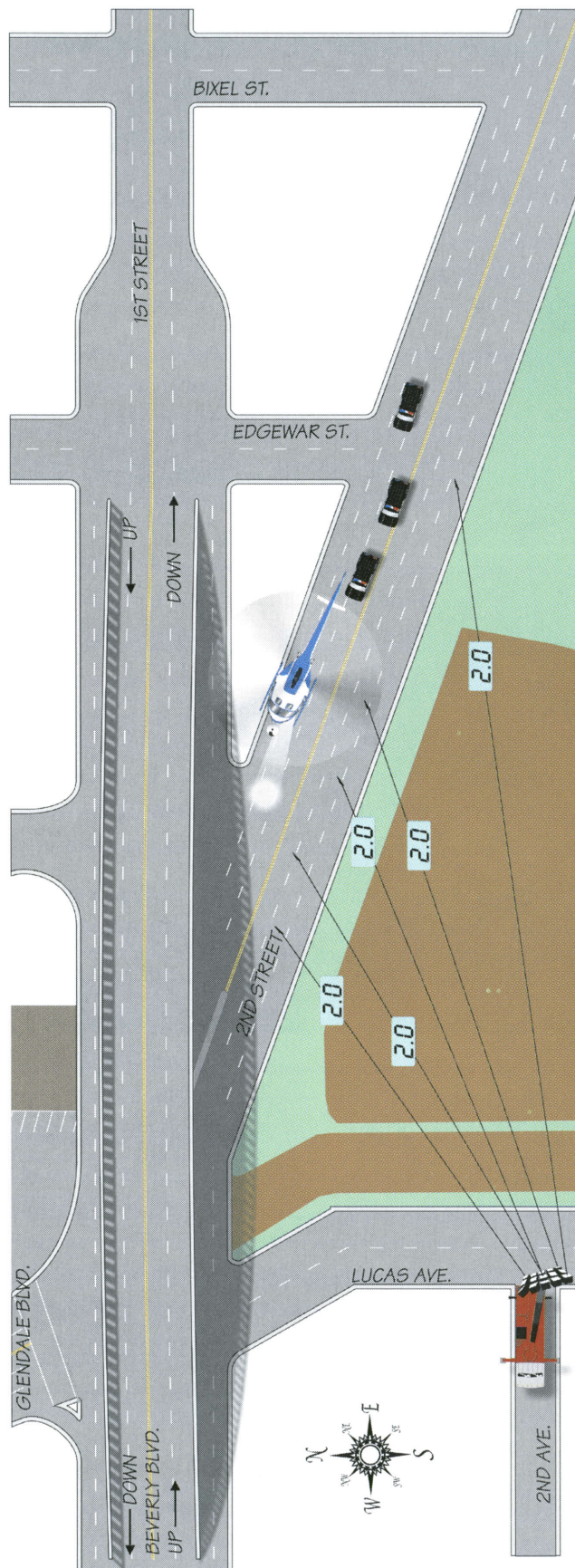
simply changed the tubes over between shots depicting Universe A and Universe B. We were able to do a lot quickly."

After the opening sequences, a chase ensues during which we discover that the mystery assassin has superhuman speed and strength. This and other sequences in the film employ a variation on a technique McLachlan used to great effect in *Millennium*. The chase scene shows Li, on foot, eluding his enemies by accelerating to 50 mph. The crew constructed a trailer with a treadmill, and the trailer was towed by a vehicle. The shot the crew executed is from the driver's point of view in a police car. "We filmed Jet at 24 fps as he approached a 60-foot truss, which we had suspended with strobes that were doubled up to get enough exposure," says McLachlan. "We ramped the camera down to 12 fps and began firing the strobes. Starting with the ramp, the film was then digitally printed back to 24 fps so it doesn't just look undercranked.

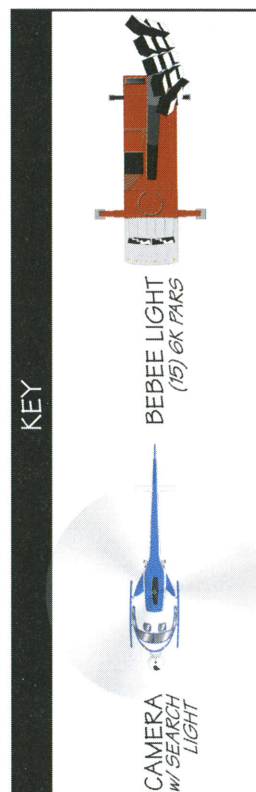
"We backlit half of the sequence with the strobes and lit from the front with tungsten lights. At 12 fps, what was lit with the tungsten light would be very blurry when we printed it back to 24 fps. The side with the strobes is super sharp because it was exposed at 1/50,000 of a second. The strobe light provides a perfectly sharp outline of Jet, even though the rest of him is blurry. The blur gives the impression of great speed.

"Because the light from the strobe tubes is so hard, its quality is quite different than any conventional movie light," McLachlan continues. "It's very harsh, and you can't really diffuse it because you lose too much light. Whenever I knew I'd be using the strobes, I'd try to backlight with a very hard edge so you wouldn't see the mismatch when we switched to a strobe shot."

The strobes were roughly eight feet from Li and provided about 25



THE ONE JUMP			
STOP LIGHT JUMP			
DIRECTOR	JAMES WONG	DIRECTOR OF PHOTOGRAPHY	ROB McLACHLAN
CHIEF LIGHTING TECHNICIAN	JEFF MURRELL	CHIEF RIGGING TECHNICIAN	FRANK DOROWSKY
		BOARD OPERATOR AND PLOTS	
		SCOTT BARNES	



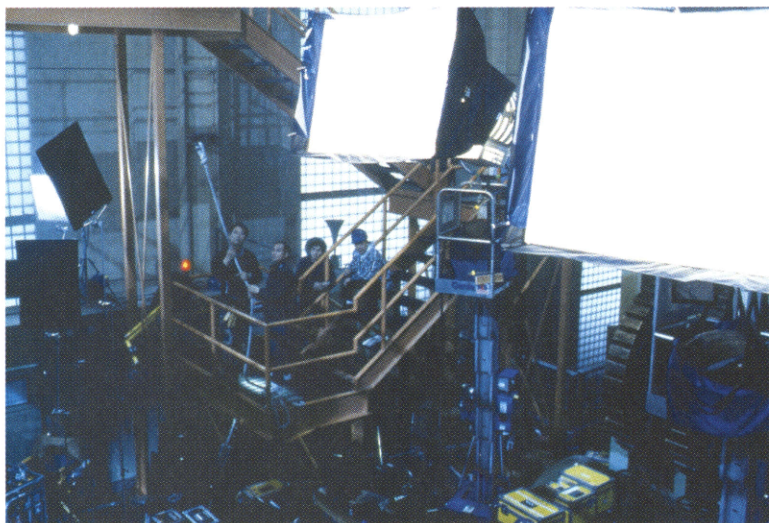
SHOT INFO			
DAY: 57	04/19/2001	SCENE: 26	STOP LIGHT JUMP - INT. - NIGHT
5279	ASA 320	SHOOTING STOP - 2.8	

The Ultimate Self-Destruction



Although daylight coming through the power plant's glass block windows was beautifully soft and diffuse, McLachlan and his crew had no way to control passing clouds that could suddenly drop the light level by three stops.

To solve the problem, the filmmakers shot at night, covered the windows with custom-made gridcloth, and aimed an 18K HMI and a 6K Par at each window from the outside.



footcandles each. McLachlan shot at T2.8 using the Vision 500T 5279 stock rated at 320 ASA. "The problem was that with the speed-ramp, the Arri 435 would normally compensate by closing the shutter, which would start to negate the blur we were after," he says. "We could have compensated using the iris instead, but the strobe exposure would have been affected because it remains constant regardless of camera speed. In the end, since it was only half a stop, I decided to not compensate on set and just did a dynamic print compensation at FotoKem. The result is very cool. I take my hat off to first AC Mike

Endler, who wired all of that stuff together and ensured that it worked under tough conditions."

On the film's night exteriors, McLachlan made extensive use of a Bebee lamp, a self-contained truck that features 15 6Ks on an arm. Each lamp is controllable from the ground. "They're the best for all the night work," he enthuses. "We were lighting huge strips of the street, generally with two of them. They're so specific that you can feather them out so they cover the whole street just by the way you aim them. Each one has a camera and video monitor on it, so the gaffer and I could walk down the street and say to the opera-

tor, 'Focus it in on the white building on the left; now center it up on the car to the right of that,' and the operator could see what we were talking about on the monitor. If we wanted to move down to another street, the whole thing folded up quickly. The Bebees are expensive, but the time savings were incredible."

The production spent close to four weeks at a retired power plant adjacent to King Harbor in Redondo Beach to film *The One's* climactic scenes, in which Gabe battles his "bad" twin in a series of minutely choreographed fights. The vast, multi-level interior of the plant featured giant, industrial turbines, an 80'-high ceiling, and tall, opaque windows that faced the ocean. "The art department was originally going to cover the beige walls and green turbines with gray paint, but it was going to cost too much," McLachlan says. "We found that by keeping light off the walls and using bluish light, we could minimize the dull beige."

The pre-rig at the location was massive. McLachlan says that the daylight through the glass block windows was beautifully soft and diffuse, but there was no way to control passing clouds that could suddenly drop the light level by three stops. "To solve that, we chose to



creativePLANET communities

Online Resources for the Creative Professional

Cinematographer.com

The online home of American Cinematographer

Cinematography news, events and resources

Articles from American Cinematographer

Cinematography discussion hosted by Jon Fauer, ASC

Cinematography student corner

Virtual ASC Clubhouse

ASC online store

News

Interviews

Jobs

The creativePLANET community Sites

2-pop.com

Cinematographer.com

DesignInMotion.com

DigitalCinemaMag.com

DigitalTelevision.com

DirectorsWorld.com

EditorsNet.com

GovernmentVideo.com

MedialineNews.com

PostIndustry.com

ProSoundNews.com

SurroundPro.com

Videography.com

VFXPro.com

Directories

Discussions

Logon to creativeplanet.com

Cinematographer Rob McLachlan (pictured) worked with Michael Bellamy at Cinesite to digitally fine-tune the look of *The One*.



Coloring Multiple Worlds

The creative team behind *The One* initially discussed using a very different color palette to distinguish each of the film's many universes, according to cinematographer Rob McLachlan, CSC. "But then we all went to the theater and saw *Traffic*," he says. "We definitely didn't want to copy that; we wanted to be much more subtle.

"I don't like very vibrant colors, partly because of all my years of working in television with tools like the DaVinci telecine," he continues. "I like to pull those out. You can do some of that with bleach-bypass prints or ENR, but if you're going to go that route it has to be for an entire print roll at the least. We were shifting from universe to universe, only some of which needed that look."

The filmmakers achieved the desired effect by digitally color-timing portions of *The One* at Cinesite. "Working with Michael Bellamy at Cinesite, we could apply certain manipulations to certain universes — we could apply a sort of bleach-bypass look, crush the blacks a bit, and use all of those tools when we wanted them," McLachlan says. "Cinesite ultimately output the digital files to anamorphic blowup for the Super 35 release."

The cinematographer used the digital suite to correct some scenes where the color temperature wasn't quite right, such as a

sequence that takes place in the hero's home. The scene was supposed to take place in pre-dawn light but was filmed closer to noon.

McLachlan says the knowledge that he would be doing digital timing down the road enabled him to think differently on the set. "I could work much faster," he attests. "The reason we could make a great-looking TV show like *Millennium* in eight days was that I knew I had all of those tools waiting down the line. I knew I didn't have to spend 20 minutes getting flags and cutters just so because someone was getting too hot when he walked by a light. We'd save 20 minutes here and there, and it added up.

"With digital-intermediate technology, I think it's going to be much easier for cinematographers to make ourselves look good," he continues. "Some people will resist, of course. When Rainmaker opened the first Rank Flying Spot Scanner in Vancouver in 1979, the commercial guys adapted to the technology first, as always. A lot of studios insisted on continuing to go to print because it was cheaper and they were used to it. But it took a lot longer, and the quality wasn't nearly as good. They finally realized that going the film-to-tape route was money well spent. I think the education process will be similar with digital film timing."

— David Heuring

The Ultimate Self-Destruction

shoot at night," he says. "Tenting the huge building, while possible, would have been too expensive. Instead, we covered the 28 70-by-15-foot windows with custom-made grid-cloth, and we pointed an 18K HMI and a 6K Par at each window from outside. Inside, in the rafters 80 feet up, we hung 14 Maxi-Brutes with hard lenses to simulate warm sunlight penetrating through open vents. We left one row of the factory's mercury-vapor lights on to give depth when the camera looked up, and used a combination of Plus Green and Plus Blue gels on our lamps in order to emulate the existing mercury-vapor lamps.

"We played the palette pretty cool," he continues. "The fill side, which you don't see too much of, was lit with clean HMIs that were very blue. The lamps generating our sunlight were neutral or slightly on the warm side. That mix is what you might find in a natural situation."

A catwalk built above the main floor served the production in many ways: as a lighting and camera platform for shots below, as an interesting setting for stunts, and as a way to break up the background. "Much of the initial part of this fight took place on the catwalk, and we got some spectacular shots looking back through the whole plant," McLachlan says. "The catwalk was a pain to work on, but it turned out to be a godsend for lighting. Without it, it would have been impossible to rig anywhere."

The cinematographer chose his stop carefully to maintain the gloominess called for in the script. The levels necessary to film at unusual frame rates up to 120 fps made for a very bright set. "Jim was concerned about it being so bright until he saw dailies," says McLachlan. "As written, the factory is very moody. We've also kept it sketchier than you normally would in the coverage because we were often working with a double for Jet. That

also helped the visual-effects people with the face-replacement techniques they were employing to make it seem as though Jet's battling himself." (See sidebar on page 62.)

The fight sequence on the catwalk called for another speed-shift technique. Parts of the fight included the use of hydraulically assisted cable rigs. During the fight, Li runs forward and is suddenly pulled back at a gravity-defying, accelerated rate. Hydraulics provided the main power, but a human touch was necessary to provide fine control of Li's vertical movement during the stunt. Three men worked the ropes in concert with Li and the hydraulic rig, doing take after take to get just the right motion. According to McLachlan, the goal was to get enough flight without the stunt looking completely ethereal.

The catwalk was later removed from the power plant and reconstructed on a stage at L.A. Center Studios to facilitate greenscreen work. For some shots, Li was filmed separately as his bad and good selves, so that one self would be fast and blurred, while the other would appear relatively normal. Although actors have appeared with "themselves" in films for years, when a character is fighting himself there's the additional problem of creating the impression of impact. Add to that the fact that one of the characters needs to appear significantly quicker than the other, and you've got a difficult sequence.

Brainstorming sessions and a lot of tests were required. "We shot greenscreen of the guys fighting at different speeds," says Jeff Kleiser of Kleiser-Walczak, which handled many of the show's effects. "The trick was to choreograph them so they could have impact while moving at different speeds. You have to have a motion-control camera that can go fast for when you're shooting high-speed, and can repeat the move at a slower speed when you're shooting at

MARELL ELECTRONIC SYSTEMS LTD Tel +44 1484 843142 Huddersfield, UK.
Research, Design & Develop Solutions for

STEADICAM® USERS

VIDEO LINKS

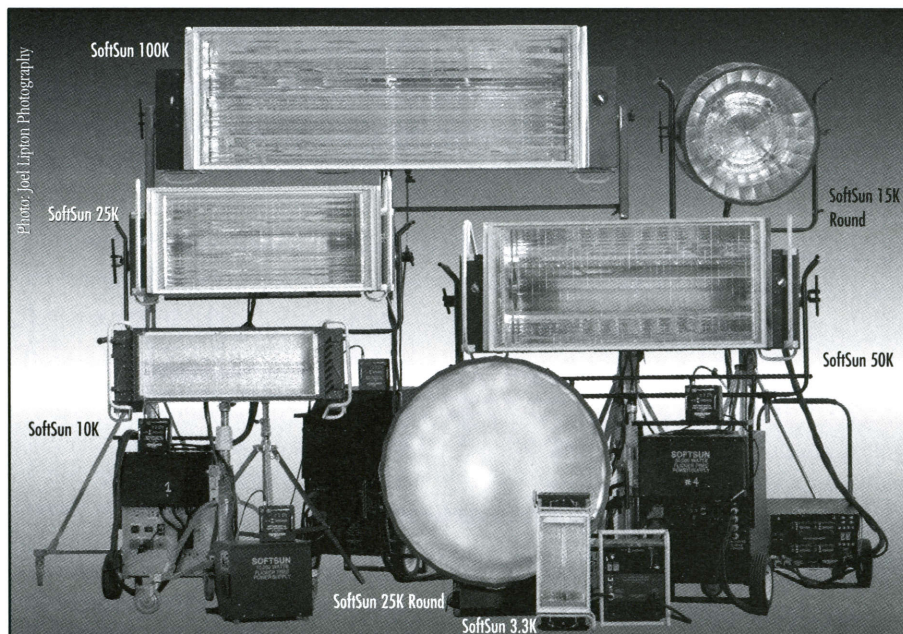
DIGITAL ELECTRONIC LEVELS

MONITORS Standby / Backup for use on any Steadicam®

VOLTAGE CONVERTERS 12v-24v 14v-26v 24v-30v

QUALITY CABLES select or design your own cables on line at:-

www.marell.co.uk



*A picture is worth
228,000 Watts.*

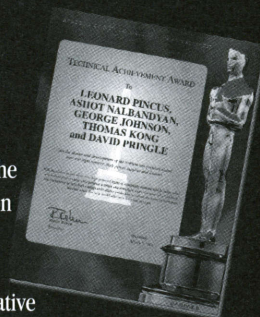
If you haven't seen SoftSun™ look again. It's the bright, broad output source that makes it easy to achieve soft illumination without diffusing or bouncing the light.

Direct the head toward the subject and adjust the output. Precisely. Digitally. Remotely. Standard or flicker-free. As the intensity is adjusted, SoftSun maintains a constant color temperature of 5400°K.

Select from 3.3K, 10K, 15K, 25K, 50K

or our whopping new 100K single source!

Discover why the Academy of Motion Picture Arts and Sciences found SoftSun so innovative that it earned a 2000 Technical Achievement Award.



Available for Rent from these fine facilities:

EFF AMSTERDAM 3120 463 1000
Panavision CHICAGO 1 773 267 1500
Lightning Strikes! HOLLYWOOD 1 323 461 6361
Cirrolite LONDON 44 208 955 6700
Dedo Weigert MUNICH 4989 356 1601
Attitude Specialty Lighting ORLANDO 1 407 896 7960

SoftSun
Save the Day™

Keylite PARIS 331 4984 0101
Panalight ROME 3906 7290 0205
Dagbljus STOCKHOLM 468 722 0180
Panavision Lighting SYDNEY 612 9697 7000
Sanwa Pro Light TOKYO 813 3707 3001
William F. White VANCOUVER, TORONTO, MONTREAL

©AMPAS®

A Hero Faces His Dark Side



Scenes pitting Li vs. Li were accomplished with the help of visual-effects artists at Kleiser-Walczak, who used digital technology to superimpose Li's facial features over those of the stunt double he squared off against.

One of the most complicated sequences in *The One* is a climactic fight in which Jet Li does battle with "himself," pitting his good character against his bad character. The scene was made possible by a face-replacement technique designed by visual-effects artists at Kleiser-Walczak.

A stunt double played one of the characters, and his face was covered with a greenscreen-like prosthetic mask shaped like Li's face and marked with 3M reflective tracking points. The Kleiser-Walczak team then replaced the green with Li's features. The two fighters and various other elements in the frame will move at changing frame rates to indicate superhuman speed and power.

Kleiser-Walczak and the show's visual-effects supervisor, Eric Durst, tested the face-replacement technique extensively to make sure it would work. They made a careful scan of Li's face and used a computer to render a lit version of it. Later, they laid this digital mask over the green mask in the photographed shots of Li's double. "Any face replacement

that's been done up until now has been on a very wide shot, so this approach really breaks new ground," notes cinematographer Rob McLachlan, CSC. "We found it worked best when we were 'cowboy,' or looser. The first tests looked a little creepy because the eyes didn't move, but within a couple of hours Kleiser-Walczak was writing a program to give the eyes some movement. Their work is amazing."

Depending on the point of view of each cut — whether it's an objective point of view, a character's point of view, or that of one of the two combatants — the way the fight appears will change. Some tighter shots on Li, for example, were shot at 120 frames per second and printed back down to 24 fps. "That gave us a lot of material to work with for the ramping and in the editing room," McLachlan says. "In the storyboard, the action speeds up and becomes more blurred. Of course, there's not much blur at those frame rates, so they'll have to create the blur in visual effects. Kleiser-Walczak has been working with Yannix Technologies on some new programs to do that, and with every pass they take at it, it gets better and more refined."

The team from Kleiser-Walczak was on set during the filming of many of the effects shots. For the more complicated ones, they often photographed a reflective globe prior to the first take. The image was fed to the computer and became a record of light-source placement and the other geography of the shot.

Director James Wong built the climactic fight sequence around a 360-degree Steadicam shot that ends with both faces in the frame. For this shot, McLachlan lit the power-plant setting to about a T5.6 for his 320 ASA stock. "I had to be able to shoot

at 120 fps because the effects people were going to create a slow artificial ramp so that the fighters would appear to go faster and faster. I couldn't do the ramp in-camera because we weren't using square-wave HMIs; the regular HMIs would have produced a flicker effect. I wanted to use the practicals on the ceiling to save us having to hang our own. The cost of using square-wave HMIs was prohibitive because we needed so many — we had 14 18Ks and 14 6Ks on each side. For a shot like that, you'd ideally have a dimmer board with cues during the shot, but that would have added two hours we just didn't have."

Instead, McLachlan concentrated on keeping backlight on the fight to render contrast, and augmented that with a China ball hung from a boom operated from the catwalk above; the light followed Li as the Steadicam operator circled. "It won't do a lot in terms of exposure, but it will put a highlight in his eyes," McLachlan explains. "The double mostly has his back to us and is out of focus. We kept the focus on Jet and kept him lit. That's an example of working with the fight choreographers to help sell the shot."

McLachlan went with a longer lens to blur the background as the camera spun around the whirling combatants. "That makes the shot much more kinetic," he says. "I remember trying to figure out how they did that in *The Good, the Bad and the Ugly*, when Lee Van Cleef was racing around the graveyard. They obviously put him on a long telephoto lens and ran him around and around, and the background became impressionistic. We used the same tried-and-true idea."

— David Heuring

a normal frame rate. The timing is the trick. In one sequence, Jet knocks out a bunch of policemen, and they're in slow motion but he's at normal speed. We're doing that with entirely CG policemen, but when Jet's fighting himself, that approach is impossible. That's where we use the face-replacement technique."

Another interesting effect was developed to represent the "worm-holes" that are used when characters travel between universes. The effect uses a vertical shaft of clean, ultra-bright light that reflects up off a circle of Mylar on the floor. During these shots, the actors shook violently while being blasted with air movers, and the camera was ramped down to 12 fps. CG techniques will be used to add a particle, or "dematerializing," effect.

A number of techniques for the wormholes were tested, but success was ultimately achieved with Mole 10Ks aimed at bounce boards. "We used a flag in front of the 10K to fade open to the bounce board, or just panned the 10Ks in and then faded back down," says McLachlan. "The trick was to not blow things out so completely that the digital team didn't have some details to work with when they did the dematerializing effect. It provided a smooth transition from light to dark again on the background. On the subject, we used four Source 4 disco lights focused on the same spot and then dimmed. We overexposed the subject about three stops with 5279.

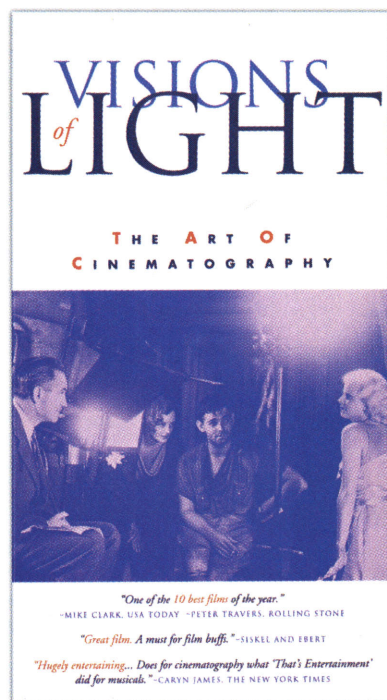
"It was yet another case where the simple approach was best," he adds. "With so many cool toys out there, I often find myself fighting to take the simple approach, but it's almost invariably the fastest and best-looking way to work."

The One's finale became known as the "Stygean Penal Colony" shot. The finished shot centers on a pyramid built on Stage 27 at Universal Studios and is enhanced by a matte painting. The

VISIONS OF LIGHT:

THE ART OF CINEMATOGRAPHY

\$39.95 ONE OF THE BEST DOCUMENTARIES EVER MADE ABOUT FILMMAKING.



LIMITED COPIES, SO ORDER TODAY

To order by phone:
1.800.448.0145 (U.S. only)
323.969.4344 all areas

Fax orders:
323.876.4973

Or order online at
www.cinematographer.com

For the first time, the ASC is pleased to offer this incredible 92-minute documentary about the craft of cinematography.

This work is also a history of cinematography and filmmaking, featuring examples of significant advances and highlights culled from the imagery of major cinematographic innovators. Included are more than 100 excerpts from classic films, including *ET*:

The Extra-Terrestrial, *Raging Bull*, *Birth of a Nation*, *Citizen Kane*, *In Cold Blood*, *The Graduate*, *Rosemary's Baby* and many others. Among those interviewed are such ASC members as Allen Daviau, Owen Roizman, Conrad Hall, Victor J. Kemper, Vilmos Zsigmond, Gordon Willis, Stephen Burum, Michael Chapman, Caleb Deschanel, William A. Fraker, John Bailey, Néstor Almendros, Charles Rosher Jr., Harry L. Wolf, Charles Lang, Sven Nykvist, Robert Wise, Laszlo Kovacs, James Wong Howe, Haskell Wexler, Vittorio Storaro, John A. Alonzo, Bill Butler, Michael Ballhaus, Frederick Elmes, Sandi Sissell and others. *Visions of Light* is a must-have for the serious film professional, movie buff or cinema student, and would also be a fantastic gift for the cineaste in your life.

(VHS, U.S. format)

The Ultimate Self-Destruction

Gabe plays hide and seek after his vengeful double tricks his wife and infiltrates their home.



shot begins on the villain perched at the top of the pyramid, dollies back while following the terrain of the pyramid and its surroundings, and then pulls up and back. The live-action shot was accomplished using an extraordinary tracking system devised by key grip Mike Anderson

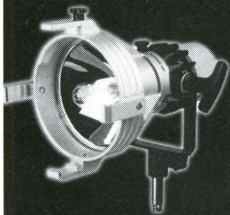
that was suspended from the ceiling and supported a Super Technocrane.

"Jim wanted to be able to come down the side of the pyramid and then go back up again, so a Wescam, a Spacecam rig, or a cable attached at the far end was not going to work," McLachlan explains. "Our

fear was that this shot would come across as a cheesy pile of dirt in a bad sci-fi movie. In the end, everybody shooting on the Universal lot came by to see Mike's incredible rig. It was similar to a rig he'd designed for *The Grinch*, but further refined."

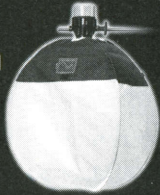
The live-action shot was digitally timed before the rest of the film, allowing the matte painter to get a sense of how much contrast would be added and how much color saturation would be pulled out. He could then match his work to the scene. "We pulled a bunch of clips from the scene and played with the contrast at Cinesite," says McLachlan. "The final look is more bleached-out, and the scene will have some grit, some grain, the kind of texture that you associate with a heavy bleach-bypass look, but it also leaves in some of the color."

The pyramid was surrounded by a giant greenscreen, which made it tough to light. "We hung conven-



Joker-Bug

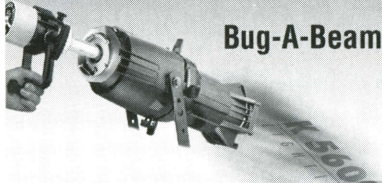
K 5600[®]
L I G H T I N G



Chinese Lantern

You Think The Joker-Bug System is Versatile Now?

You Haven't Seen Anything Yet!



Bug-A-Beam



Softube

www.K5600.com

tional space lights that lit the green-screen, and we had some lamps positioned on the ground to even it out. That gave us our dead minimum, overall fill-level light. Normally you might err on the safe side and keep the ambient level a bit high, just to make sure you get everything you want, but that approach just felt too flat and bright. So we turned half the units off and brought the overall level down a lot darker, and then hung some 10Ks up in the perms. Whichever way we were looking, we just turned them on and immediately got a nice rim light. Because we knew the angle, we were able to light things a bit more boldly, which really helped sell the scene."

McLachlan looks back on shooting *The One* with a sense of gratitude toward his team. "I was blessed with an incredible crew that stayed chipper even when we were working six-night weeks for almost



Director James Wong prepares for a scene with actress Carla Gugino, who plays dual roles as the virtuous Gabe's loving wife, Traci Katherine, and the evil double's vixen of a girlfriend, Massie.

two months. Jim uses a lot of Power Pod shots — some of them very elaborate — and my operator, Casey Hotchkiss, did another masterful job, together with dolly grip Audie Aragon. Jeff Murrell was really superb, as were the best boys, Steve Reinhardt and Malcolm Dorran,

who kept track of an incredible number of equipment requirements. We were all lucky that line producer Lata Ryan understood the need for pre-rigging and gave us everything we needed. I look forward to our next chance to work together." ■

ZEISS and BAND PRO Make News at IBC

SEPTEMBER 14, 2001

Copyright 2001
S1.50 Designated Areas Higher

Introducing DigiPrimes for HD Cinematography

IBC 2001 marks the international debut announcement High Definition cinematographers have been waiting for. Zeiss, the world's most renowned optics maker Carl Zeiss, and Band Pro Film/Video, the world's most renowned marketing



Distributor for the Americas

Tel 818-972-2839

Fax 818-972-2832

www.16x9inc.com

www.DigiPrimes.com

Outside of the Americas:



www.bandpro.com

The Final Frontier

Director of photography Marvin V. Rush, ASC explores the early adventures of Starfleet in the new *Star Trek* series *Enterprise*.

by Douglas Bankston

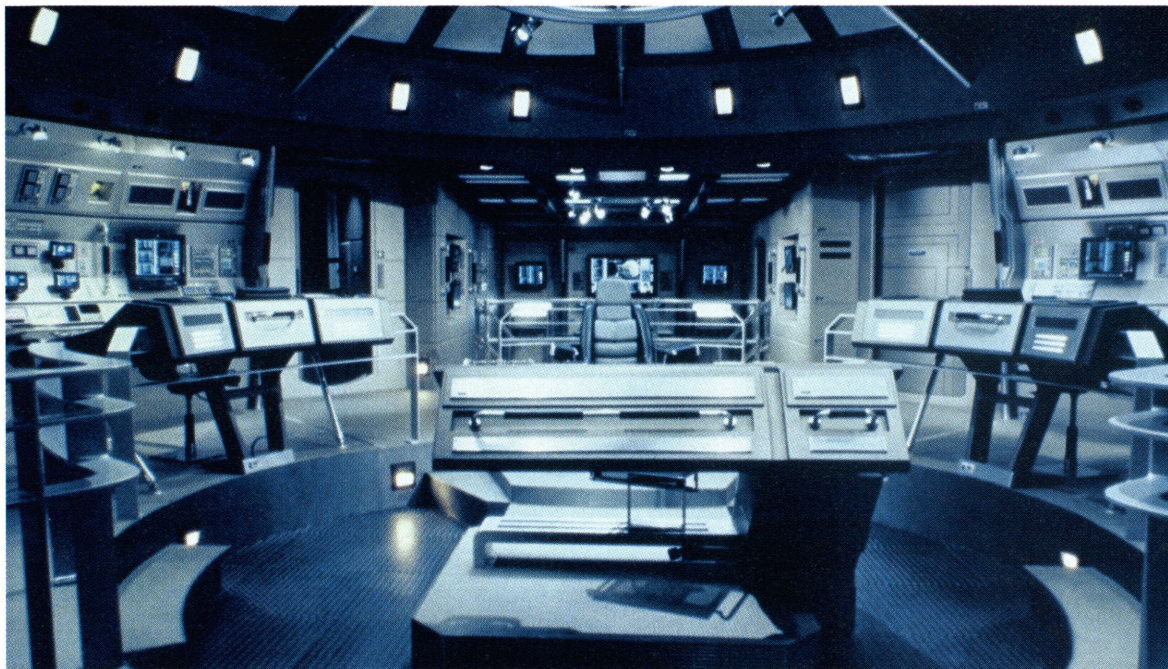


Lipped up in a basic jumpsuit with only the outlines of thin gold banding breaking up the uniform's dark blue hue, Capt. Jonathan Archer sits motionless in a fat, royal blue mass of a chair that looks like an art-deco interpretation of a student's classroom desk. Archer is lost in thought in his cramped Ready Room, which is sparsely furnished with brushed aluminum accents. The room's low-slung ceiling

features joists resembling metallic skeletal ribs that are just out of reach — when one is seated. In short, the Ready Room is the type of closet you'd find in the bowels of a ship or submarine. But a true bearing on the setting can be gained with a glance at one of the short walls, where four mounted sketches depict vessels progressing from sail to space. Each bear the name *Enterprise*, but the last sketch is the most important; it

depicts a saucer with two trailing warp nacelles. This is the *Enterprise NX-01*.

The Ready Room's door chime stirs Archer from his concentration. "Come in," he says without looking up. What follows is an unexpectedly long pause, and his eyebrows furl in puzzlement. The door never slides open. "Or don't come in, I don't care," he says matter-of-factly. Archer, also known as actor Scott Bakula,



smirks and shrugs as the production crew's laughter resonates throughout the set. Standing outside the ship's Bridge in Paramount's Stage 18, I can't help but join in while I watch the comic miscue unfold.

A cry of "Cut!" resounds from the darkness as a grinning LeVar Burton emerges, pulling headphones off his ears. Burton, who could be seen on the other side of the cameras in his role as *The Next Generation's* Geordi LaForge, is directing the "Terra Nova" episode of this new *Star Trek* series, which has been simply titled *Enterprise*. "Who's on the door?" calls out the amused, script-wielding first assistant director Jerry Fleck, a longtime *Star Trek* crewmember.

Whereas *Star Trek: Deep Space Nine* and *Star Trek: Voyager* became entangled in complicated and continuous alien race-wars, *Enterprise* takes a bold step back in time: the Federation has yet to form, there are no phasers that can be set to stun, and the transporter is voodoo technology at best. Set in the 22nd century, a short time after first contact with Vulcans and 100 years before the original 1960s series, *Enterprise*, with

its rather contemporary crew, explores the galaxy with renewed awe and wonder. The show will answer the question long debated and hypothesized by *Star Trek* fans: what was space travel like before Capt. Kirk?

In leading this journey of discovery, the brash Archer commands an intrepid crew that includes the advising Vulcan Subcommander T'Pol (Jolene Blalock), Chief Engineer Charles "Trip" Tucker III (Connor Trinneer), British armory officer Lt. Malcolm Reed (Dominic Keating), helmsman Ensign Travis Mayweather (Anthony Montgomery), communications officer Ensign Hoshi Sato (Linda Park), and the alien doctor, Phlox (John Billingsley). These adventurers have the first encounters with Klingons and other alien favorites. There's even a new menace, the Suliban, a genetically enhanced superspecies who are the pawns of an unknown time-traveling group.

All of these actors are new to the *Star Trek* scene, but there are many familiar faces *behind* the scenes. In fact, a majority of the *Enterprise* production crew are *Trek*



veterans, including director of photography Marvin V. Rush, ASC, who enlisted during the third season of *The Next Generation* series and has been photographing Starfleet's TV adventures ever since. On this new show, however, it's evident that excitement pervades Stage 18. "The original *Star Trek* influenced generations of people," Rush says. To prove it, he points to the cell phone clinging to my hip. "Look at the flip phone from Motorola. Doesn't it look like

Opposite: Though revolutionary for its time, the *Enterprise NX-01* still shares some styling cues with its close cousin, the nuclear submarine. Many of these design elements are evident on the bridge (this page). Director of photography Marvin V. Rush, ASC and production designer Herman Zimmerman worked together to integrate numerous practical quartz and fluorescent workspace lights into the set, which allowed Rush to keep equipment off the floor. This enables him to shoot in any direction on the set with only minor tweaking. This page, bottom: Capt. Jonathan Archer (Scott Bakula) supervises helmsman Travis Mayweather (Anthony Montgomery), who steers the *Enterprise* — literally — with a submarine-style wheel.

The Final Frontier



Left to right: Ensign Hoshi Sato (Linda Park), Chief Engineer Charles "Trip" Tucker (Connor Trinneer) and Vulcan Subcommander T'Pol (Jolene Blalock) tread warily in an alien environment.

Kirk's communicator? That's not an accident. *Star Trek* and science fiction can influence the real future, so we have a chance to be a part of that, if we do our job right."

Rush has a special fascination with space travel. His father, an aeronautical engineer for the Apollo space program, was involved with the design of the lunar-ascent engine that lifted astronauts off the moon's surface. Coming up on his 13th year at the helm of the *Star Trek* series' camera department, the younger Rush has been exploring uncharted reaches of the galaxy in his own way: on film. "It's hard to walk away from a really great job for some *unknown*," he says with a touch of irony. "I like the people I'm working with, and I like the stories we tell."

"I think he is a brilliant cinematographer," attests executive producer Rick Berman, who along with Brannon Braga has been a caretaker of the *Star Trek* world since creator Gene Roddenberry's death a decade ago. "More importantly, after 13 years, Marvin comes

to work every day and approaches each setup as if it were the first day of his first season. His enthusiasm and his unceasing desire to creatively find the best solutions to problems blows us away."

Rush and the crew relish the challenge of improvisation. After finally nailing the shot with that pesky door, Rush suggests to Burton that for the next setup, they should shoot over the tiny desk in the opposite corner from where Archer is seated, catching Mayweather and Sato in the foreground as they play a message recorded on a disk. In an instant, a wall is unscrewed and whisked away as the dolly carrying a Panaflex Gold II, the main studio camera, is set in place.

Production designer Herman Zimmerman constructed these mostly enclosed sets with an abundance of wild walls, creating endless shot possibilities. Stage 18 is home to the Bridge, Ready Room and Situation Room, as well as the engineering section, the shuttle bay and some corridors. Stages 8 and 9 contain sick bay, the mess hall, living quarters and swing sets.

The *Enterprise* interior, dressed in shades of gray and metallic textures, looks like a close cousin of today's nuclear submarine, and Rush's lighting plan follows that familiar scheme. "The director of the pilot, James Conway, and I actually screened *The Hunt for Red October*, which I'm a really big fan of," says Rush. "If you notice the American submarine, this is a lot closer to that look, with recessed lighting and other units that are visible in the shot. We've created this sense of task or workspace lighting, and the sources are in the shot. In other words, areas and workspaces are lit from natural, practical sources. We occasionally have lens flare, but that's all part of the look—if we think it's working for us. We're trying to lend this show more of that *cinéma vérité*, 'you are there' quality."

Rush points to one of the many small units that have been incorporated into the set. "These are quartz lights, and we built little diffusions for them. For the wide shots, they provide a majority of the lighting for the set, and the same is true with the fixtures in the ceiling. These lamps are essentially household track lights that you can buy from a catalog. We found a design that looked modern and futuristic, one that Herman Zimmerman and I agreed was good for the show. They're harder to flag because they're not 'movie lights,' but we can shoot 360 degrees in this set without using any movie lights. These things have made the job easier in some ways and also artistically more liberating. When we go in for close-ups, of course, we'll augment the look. But the object here was to make the set do 90 percent of the work and then be able to tweak the practical lights in a way that would look good and also look *real*."

Much in the way that a painting is showcased with an overhead spotlight, Rush's small fluorescent and quartz lights illuminate the set's work areas. A large cache of tiny Par 16, 20 and 30 bulbs is always close at hand. These bulbs, ranging from 35 to 60 watts in both flood and spot modes, have a color temperature slightly warmer than 3200°K that is timed out. No matter which unit is used, all share the common trait of having very short, 3' throws.

Above the sets, hanging from a maze of pipe and chain, are bare 4' fluorescent tubes sleeved in Minus Green along with countless snooted Tweenies providing an overall ambient light level. "There's an ambience to the set that we can take up or down depending upon the mood of the scene," Rush details. "Sometimes when scenes get hairy and things are blowing up, you want to lose some ambience and maybe change the keys from being frontal to being more cross and back. But you still

quality

innovation

quality
service

the
service
final
touch

35mm, 16mm Film
Processing

Print Dailies

Answer Prints

Release Prints

Custom Processing

Preservation
& Restoration

Digital Intermediates

Student Services
Department

Telecine

Editing

Duplication

Quality Control

Hi Def

Scanning & Recording

Tape to Film

Optical Track Transfer

Audio

DVD Pre-Mastering

Streaming Media

FOTOKEM
FILM AND VIDEO

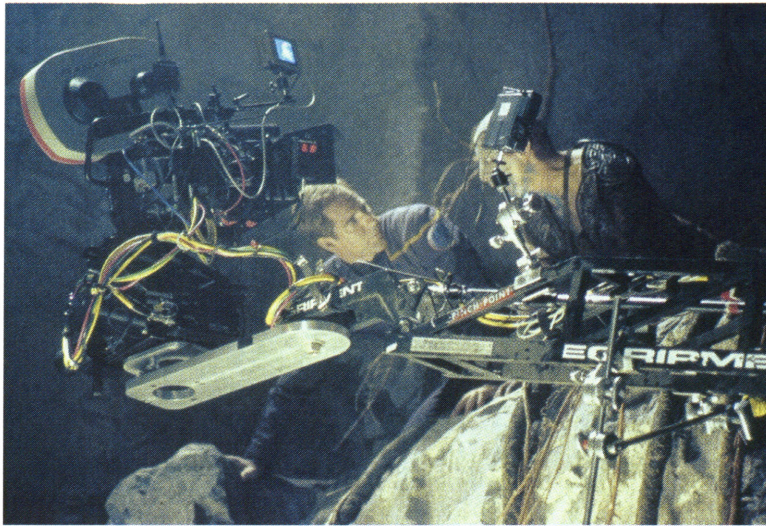
818 846 3101

www.fotokem.com

The Final Frontier

Right: In the episode "Terra Nova," Archer comes face to face with a member of an alien race in a system of caves. The production makes extensive use of

Egripment's Javelin crane, which allows the crew to fly the camera all over the sets. "The benefit of the crane is that we can float in and out, playing out a shot very quickly," says Rush. "We can actually fly right over the furniture and into a close-up, and we do shots like that all the time." Below: Chief lighting technician William Peets (left) and Rush (center) watch as camera operator Douglas Knapp maneuvers the camera — perched high above set on the Javelin crane — via the Hot Gears remote-head controls.



need to see everything." The Bridge set has a high ceiling with segments of opaque Plexiglas through which these lights shine.

However, the same fixtures are readily visible above the Ready Room, which has low joists but no covering. "It's an intentionally low ceiling because we want to create a sense of claustrophobia," the cinematographer explains. "While that's right for the designer and the storytelling, though, it is also inevitably one of the more difficult things to light. There are no really good angles from which to bring light into the actors' faces. Although there are a whole bunch of Tweenies up there, they're not useful for close-ups; we basically just use them to get expo-

sure in our wider shots. Ultimately, we go in and relight for the close-ups, or we construct the shot in such a way that there are a few little toeholds where we can hide what we need. From a lighting standpoint, the Ready Room is the hardest set."

After a dolly has been locked in place to prepare for an upcoming shot in the Ready Room, chief lighting technician William Peets oversees the quick installation of one of these small lighting additions in a joist toehold. This particular unit, a kind of homemade fluorescent softbox with diffusion on the front, is affixed to the high-tech structure with a few low-tech staples.

There are a number of these differently sized, handcrafted units

about — even a shopping cart overflowing with them. Each unit contains one to four short fluorescent tubes with internal ballasts. They are designated with terms such as Albatross and Hot Pocket, nicknames that were created "so that everyone would know what we're talking about," Rush explains. "We needed to make lightweight fixtures that we could place anywhere. I had suggested to key grip Randy Burgess that he build something that would utilize the regular practicals yet allow us to control the light, and he dreamed these up. They're made with a lot of Velcro and foamcore, they've got an adjustable snoot to extend the light out, and they also have frames that we can drop Frost [diffusion] into. If I want a harder light, I take the snoot off and remove the diffusion, but the homemade units have the same quality and color temperature as the practicals in the set. Some of the boxes contain multiple fixtures, so we can just unplug one for easy dimming."

As he picks up a 2' variation of the foamcore units, he explains that "this is an example of another tool we've invented for our purposes. It's called a Monitor, and it's essentially a handheld eyelight. It's got black on the inside to ensure less light reflection. I can have a fully steep key on somebody, and then I can bring this eyelight in and just nail him. It can be manually operated during the shot to finesse the look a bit."

To the eye, the level of the shadowless light appears rather low, but Rush maintains a general exposure of around T2.8, exclusively using Kodak Vision 500T 5279 rated normally. "The 79 has tremendous latitude. That allows us a lot of creative freedom; we're able to push the envelope further onboard the ship to create a unique look. That was the requirement — something we hadn't seen before."

Television's, current transitional state initially required the



cinematographer to shoot in Super 35 but frame for full-frame 4:3 while protecting for the widescreen 1.78:1 aspect ratio, which created some difficult compositional compromises. However, midway through the season, the production has decided to use only the letterboxed 16x9 (1.78:1) aspect ratio. Episodes filmed previous to that decision will be re-telecined where necessary to have the wider picture extracted from the high-definition master via pan-and-scan methods; these shows will then be aired in letterboxed form. Rush is able to protect for this by using a special ground glass with 16x9 framelines that are undersized by 10 percent, leaving extra width and headroom on the negative. "Our actual picture is *inside* what we're protecting for," he explains.

Development is handled by Deluxe, and telecine is done in hi-def using a Cintel C-Reality at Level 3 Post. The HD transfer is then down-converted for NTSC. With time not being one of teleproduction's best assets, one-pass color correction occurs at the time of telecine and is handled by George Svetlekana. During their 11-year working relationship, Rush has actually followed Svetlekana whenever the telecine operator has changed facilities. "I don't think it's very common for a cameraman to have that long a relationship with a telecine guy," says Rush. "But timed dailies are what you see on the air; we don't have a secondary color-correction pass. That approach requires us to nail it, so we have to have a good telecine man."

A short distance from the dolly, which is resting where a wall had once been, Rush takes a seat behind a monitor and the two steering wheels of the Hot Gears control box. He uses the remote controls to show Burton what this angle of the Ready Room shot will look like with a 75mm Super Speed Z Series MKII

I see you.

Yes, the new 8mm Russian Peleng lens from Long Valley has such a wide view it actually sees the viewfinder and the shutter housing on the Arri 435! Fortunately, they are just out of frame. But watch out for support rails, hand grips, cables, and your feet!

Now you can get that wild, bent 8mm look in your 35mm footage all the time, any time, without a special trip to the rental house for the Nikkor 8mm. The Long Valley R8 is available in PL mount for just \$795, so you can own it, and keep it handy any time inspiration strikes. Of course, the R8 works for 16 and super 16 as well.

Best of all, the R8 has increased coverage – it won't vignette the corners of your High Def or 1.85 frame, so for future broadcast and theatrical release, your image is safe.

The R8. You might be seeing a lot of it, too.

LONG VALLEY EQUIPMENT

165 Fairview Ave. Long Valley, NJ 07853
Tel. (908) 876-1022 Fax (908) 876-1938 • www.longvalleyequip.com



Jimmy Jib
TRIANGLE

Made in the
USA

Starting at
\$8,235.00
(Standard jib with remote, two axis head)

- * Made Of Super Rigid, Triangular, Aluminum Tubing
- * More Stable
- * Bigger, Beefier Head
- * Extends to 30ft (9.1m) reach
- * Breaks Down To a 3ft 8in Package
- * Handles 50 lb. (22.6 kg) at 30ft reach
- * Operates Video And Film Lenses

Shown with optional
Dutch Roll

Stanton Video Services Inc.
2223 E. Rose Garden Loop
Phoenix Arizona 85024
e-mail: jim@jimmyjib.com
Web: www.jimmyjib.com
Tel: 602-493-9505
Fax: 602-493-2468

Jimmy Jib Lite

\$6,143

(includes all extensions)

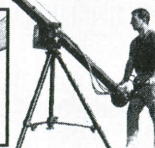
- * 15 lb. camera capacity
- * Weighs Only 55 lb.
- * Extends from 6ft to 18ft
- * AC or DC Operation
- * Remote Joystick Control plus Zoom and Focus
- * Breaks down to a small 3ft package



Jib Lite With Cable Drive

- * Smooth, cable operated pan/tilt head
- * Needs no electricity
- * Super dependable with quick setup
- * Anyone can operate
- * Can be extended to an 18ft reach
- * 15 lb. camera capacity

only
\$2,775
(at 6ft reach)



Pan Arm Controller

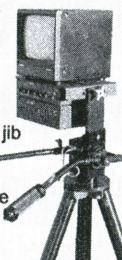
New

Replaces the joystick for smooth proportional Control

- * Includes Zoom and Focus

- * Can be mounted directly to jib

- * Adjustable pan/tilt ratios



The Final Frontier

lens, as first AC Gary Tachell adjusts focus with a Preston Microforce remote unit. "Oh, Marvin, this is great!" Burton exults at the success of another improvisation.

"One of the tricks around here is having a lot of capabilities, a lot of talented people and a lot of equipment so we can improvise rather quickly," Rush says over his shoulder. "Flexible people and flexible thinking allow us to do something like this. If we can find ways to get the work done quickly, we can spend more time doing the things we want to do artistically.

"I like a light camera," the cinematographer says when quizzed about his choice of lenses. "The Z Series are lighter lenses, and they work great. We'll occasionally use Primos if we need something special, something specific like a focal length we can't get any other way. I use the Cooke 5:1 [20-100mm

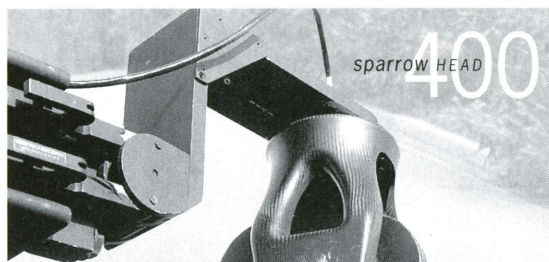
T3] zoom as our workhorse, and I use it like I would a dolly. That requires a fine touch."

A lightweight Panavision Millennium XL serves as a second camera for multi-camera sequences, or as the main camera for handheld shots. Basic lens filtration on the show is a 1/2 White Tiffen Pro-Mist, which "adds a bit more life to the shadows," notes Rush. A Soft/FX 1 is used for cosmetic applications in close-ups, and a Soft/FX 2 is employed for extreme close-ups.

As the Ready Room setup undergoes some final tweaking (such as gluing the recording disk back together after it accidentally falls apart in Bakula's hand), grips easily remove the frontal wild wall of the Bridge set to prepare for the next batch of shots. The Bridge, with the Situation Room in back, begins to resemble a futuristic version of St. Peter's Square — but with a ceiling.

Other crewmembers lay track into the nose of the Bridge and prime an Egriment Javelin crane, the key piece of equipment added for the new show. In fact, the multi-tiered sets were constructed with this crane in mind. "The design of the Bridge set is tied into the notion of using the crane for primary coverage," Rush points out. "The benefit of the crane is that we can float in and out, playing out a shot very quickly. We can actually fly right over the furniture and into a close-up, and we do shots like that all the time. Imagine laying dolly track for this! Because of the multiple levels we'd have to roll out, it would be a nightmare. Without [the crane], this set would be unshootable, in my opinion. This way is much more efficient, and time is the commodity we have the least of."

The Bridge is home to the usual stations familiar to *Star Trek*

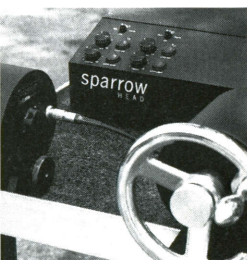
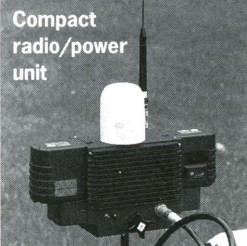


Sparrow Head operates remotely in situations never before possible. The SH400 with camera and 400' mag weighs just 30 lbs. allowing use of light weight arms. Set up time is just 15 minutes.

The SH200 is the only head designed specifically for mounting to moving objects. It offers wireless control with a 1/4 mile range at speeds in excess of 100mph.



Redefining Remote Heads



doggicam
systems

An integrated camera system offering versatile solutions to your creative demands.

909 S. Victory Boulevard
Burbank CA 91502

818.845.8470
818.845.8477 fax

www.doggicam.com

fans, and is thus surrounded by a vast array of plasma and small LCD screens. The advantages of using these flat-panel displays are that the need for phasing has been eliminated and they can be photographed at extremely oblique angles. The displays are fed non-interlaced graphics originating from Macintosh Cubes, meaning that for HDTV, every field of video will have full resolution for a level of detail unattainable with video playback and CRTs. Graphics are controlled from a hut referred to as "Mission Control," off to one side of the stage.

Rush steps away from the monitor, and Douglas Knapp, with a crack of the knuckles, takes a seat behind the Hot Gears remote wheels. Knapp, who pulls double-duty as first-unit camera operator and second-unit director of photography, quickly practices the camera moves that will glide from actor to actor in

the single sustained take. "We rely on the abilities of talented people," Rush says. "If it weren't for Doug being a terrific operator, I wouldn't even attempt a shot like this. Finesse is required, and he has to be right on the money on cues that are kind of rubbery."

As Knapp works on the timing of the moves, Peets is setting marks on a dimmer he has patched into the fluorescent fixture hidden in the joist, dimming the light about 50 percent when Bakula moves near it and ramping back up when he walks away. "With these short throws, the lights get bright really fast," explains Rush. "Billy is dimming it down to take care of that when [Bakula] gets close. The light is fluorescent, so it doesn't change color temperature [when it's dimmed]."

Stage 18 falls silent as the call for quiet is shouted and the bell sounds. Everyone's attention is fixed

on the Ready Room as Archer, Mayweather and Sato listen closely to the recording of the Terra Novan leader's final words. As the shot unfolds, Knapp orchestrates the twin wheels while Peets rotates the dimmer dial.

"It's all a little dance, you know?" Rush whispers. At the end of the take he gives a subtle nod. "Bingo. That was the shot." Everyone else knows it too, and they head to the Bridge for the next setup.

"I'm very proud of the look that we're achieving," Rush concludes. "It's a look I haven't done before, and it's a lot of fun to learn this new landscape. I'm very eager to have a big audience for this program, because *Star Trek* poses a positive view of the future. My dream is that this show will rekindle the excitement of exploration, of the absolute unknown, of discovering what's out there." ■



THE LOOK OF KINO FLO®

Kino Flo® **True Match®** lighting mixes seamlessly with tungsten or daylight sources. It's as soft as butter and so cool it won't melt the talent. Versatile, lightweight Kino Flos can hang just about anywhere. They set up quickly and require very little power.

Visit the Kino Flo website to find out more about True Match lighting.

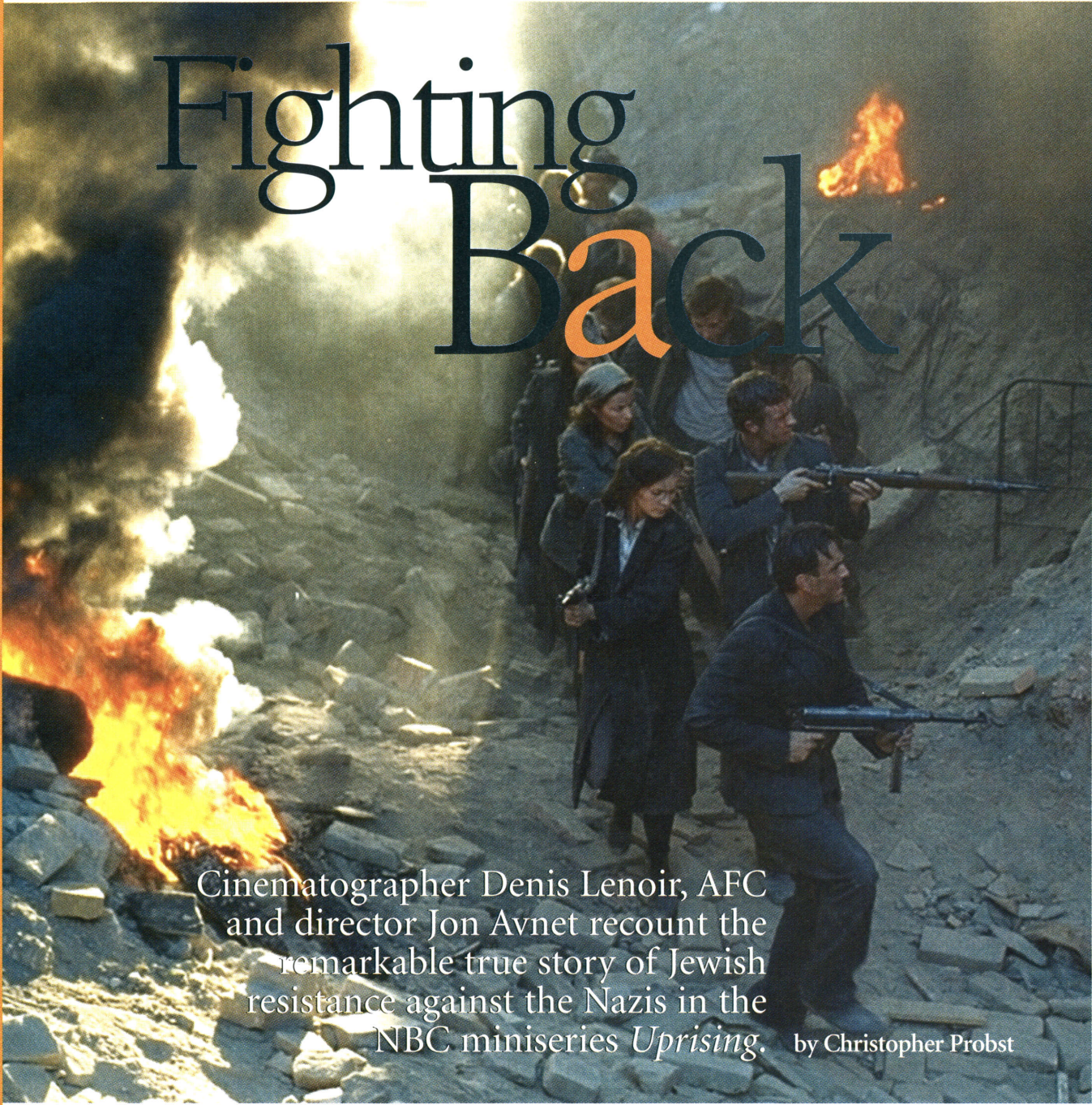
KINOFLO.COM

KINO FLO
LIGHTING SYSTEMS



Image captured with
Blanket Lite 4x6 as shown

Sun Valley, CA • Ph 818-767-6528 • Fax 818-767-5912



Fighting Back

Cinematographer Denis Lenoir, AFC and director Jon Avnet recount the remarkable true story of Jewish resistance against the Nazis in the NBC miniseries *Uprising*.

by Christopher Probst

The atrocities committed against the Jews by the Nazis during World War II have been the subject of many books, documentaries and feature films. Most of these accounts focus on Hitler's horrific "Final Solution," but there are some less-publicized stories of Jewish freedom fighters who actually struck back at the Nazis and won. One such struggle occurred in

Warsaw's Jewish ghetto during Germany's occupation of Poland, and it is recounted in the NBC miniseries *Uprising*.

"*Uprising* is a story of resistance, and I found it incredibly compelling," says director Jon Avnet, who also co-wrote the teleplay. "This project is the most ambitious film with which I've ever been involved. The 74-day shoot was extremely

tight for a 180-page script that included several major battles."

A four-hour miniseries that will air this month, *Uprising* was shot entirely in Europe last spring. The primary location was Bratislava, Slovakia; a few scenes were captured in the Austrian Alps, and some second-unit establishing shots were shot in Krakow, Poland. AC was afforded a uniquely extended set

visit, in that I served as the show's camera operator, a duty split with director of photography Denis Lenoir, AFC.

One of the founding members of the Association of French Cinematographers (AFC), Lenoir began his career as a director of photography after what he calls "a very short, miserable stint as a camera assistant." He has earned international acclaim for his collaborations with directors Olivier Assayas (*Paris S'Éveille*, *Fin Août Début Septembre*), Patrice Leconte (*Monsieur Hire*) and Christopher Hampton (*Carrington* and *The Secret Agent*). Lenoir recently completed principal photography on *Demonlover*, which reunited him with Assayas.

Avnet asked Lenoir to shoot *Uprising* because he'd been impressed by the choreographed handheld camerawork in Lenoir's prior films. The director wanted to achieve a level of realism and roughness in the camerawork that would lend a subtle documentary edge to *Uprising's* visuals. "The handheld camera creates a sense of being there, a visceral feeling," Avnet observes. "Denis shot *Steal This Movie*, which I executive produced, but it was really his work in *Monsieur Hire* and *Carrington*, as well as a lot of his unbelievable handheld work with Olivier Assayas, that made me feel he was the ideal choice for *Uprising*."

As any cinematographer will attest, handheld camerawork presents several challenges, both physical and photographic, to the filmmaking process. "The complexity of the camera choreography we were going for was incredibly ambitious," admits Avnet. "Very early on in the shoot, it was typical to have six- or eight-point camera moves on several different actors. Although it was at first fairly complicated to even explain the shots to our team of operators [which included Lenoir, myself and B-camera/Steadicam



operator Goran Mecava], this approach also helped to create the feel of the camera trying to find the shot. That lent a sense of 'nowness' to the scenes."

Adding to the "organized chaos" of this shooting style was Avnet's inventive penchant for manipulating the timing and blocking of the camera's choreography from take to take. "I was getting a lot of different coverage without taking the time to do entirely separate shots, and I was also allowing for the creativity of the operators," he says. "I'd tell them when to whip over to another character, but they would then have to interpret that within the context of the actor's performance. Often, the results were better than I'd planned. It became very improvisa-

tional, like jazz. Fortunately, Denis dove right into that style immediately."

"Being able to adjust the frame for the optimal angle at any time is a great aspect of handheld work," expands Lenoir. "Younger actors often don't hit marks, but you can adjust to them. By being able to freely move the camera, you don't have the same problems communicating with a dolly grip as you do when you're on a dolly. When you're shooting handheld, you can lean forward or backward to help the focus puller if he's a little off the mark. Because the camera is moving all the time, these adjustments aren't really noticeable.

"We didn't want to exaggerate the fact that the camera was handheld," Lenoir adds. "In fact, many of

Opposite page: A ragtag group of Jewish freedom fighters, led by Mordechai Anielewicz (Hank Azaria), struggle amid the ruins of Warsaw's ghetto. This page, top: Poised for an ambush, Calel (Andy Nyman) and other rebels take aim from atop the only actual structure standing on the production's façade backlot. Scenes showing the entire skyline from this high vantage point featured CG extensions to add to the scope of the production's Warsaw facsimile. Bottom: The Germans get more than they bargained for as they try to evacuate the remaining Jews from the ghetto. Recounts Lenoir, "The first time the Germans entered the ghetto, they crossed through the gate like a big parade through the Arc de Triomphe. They were then shot at from roofs, windows and in the streets. The second time they came, roughly the same thing happened. So by the third battle, they just brought in artillery and literally leveled the city. Our battle scenes were certainly inspired to some degree by the battles in *Saving Private Ryan*, so we also incorporated 90- and 45-degree shutters with the handheld cameras."

Fighting Back



Above: Mordechai gathers weapons and support after the rebels' first show of resistance, dubbed the "January battle." Slovakia's capricious weather actually aided the filmmakers' efforts by delivering brutally cold weather, even in the middle of April. Epsom salt and white cloth was also layered on the ground to further sell the illusion. Right: Lenoir, backed by key grip Eric Aupetit and flanked by boom operator David Smith, orchestrates a deft handheld maneuver while filming the frantic skirmish between the mounting resistance and the imposing German army.



those scenes don't even look as though they are."

Handheld cameras were used for about 95 percent of the shoot, but not every camera position was conducive to this freewheeling methodology. "Sometimes there are situations where you aren't physically able to move as easily, like when you're seated low on an applebox to shoot people seated at a table," Lenoir points out. "In that position, you can still lean to a degree, but you're basically fixed. In one of these situations, however, I asked key grip Eric Aupetit to lay a track down and then fasten the applebox to a set of the dolly's skateboard wheels. The operator was then able to adjust the frame

with his legs without having to communicate with a dolly grip."

The filmmakers decided to employ a more rigid camera style when filming the Germans. "When we filmed the Germans in their offices and homes, we treated them more stiffly and introduced more symmetry into the frame," Lenoir says. "We filmed most of those scenes on sticks or dollies. However, we didn't want to make these differences too noticeable. If it shouted too loudly, it would've been a problem."

To recreate the Warsaw ghetto, the production constructed a massive "backlot" façade of a city in a field along the famed Danube River on the outskirts of Bratislava.

Production designer Benjamin Fernandez had local Slovak workers lay thousands of cobblestones by hand to create the set's connected streets and central square. The production also utilized an abandoned six-story factory at the site as a production base and makeshift soundstage for some interior sets, which included the ghetto's elaborate bunkers and tunnels.

Avnet wanted *Uprising* to have a muted color palette, and Lenoir says the director "expressed a keen interest in creating a look that was very contrasty, with a lot of darkness in the frame. He said he'd be happy to place an actor in total darkness, and then have him step out into light."

Several weeks before principal photography, the filmmakers conducted a battery of tests to determine which film-processing treatment they would implement to create the desired look. "We tested several ways of achieving a high-contrast image, muted tones, enhanced grain and grittiness," Lenoir recalls. "I offered Jon the possibilities of manipulating the negative, the internegative and the interpositive, as well as the print. We tested ENR at Technicolor in London, CCE and ACE at Deluxe London, and the NEC process at the Paris-based lab LTC, which can perform the process on both the internegative and interpositive. We also tested simply bypassing the bleach on both the negative and the print." (For more information on these processes, see "Soup du Jour," AC Nov. '98.)

Besides establishing the tone, grain and desaturation characteristics of the film via special processing, the filmmakers also sought to lock in the colors of the sets, wardrobe and makeup, as well as select the lenses that would aid in these efforts. After viewing the results of the tests, Lenoir determined to use either the CCE process at Deluxe for a limited theatrical print run or, if many prints

were required, to use LTC's NEC process at the internegative stage. After testing several older sets of lenses, Lenoir opted to shoot *Uprising* with two sets of the older Cooke Pancros and two Cooke 10:1 zooms. He also chose the handheld-friendly Moviecam SL and Compact cameras, which were provided by Arriflex in Munich.

Although the show was destined for TV, its makers approached *Uprising* as they would a feature film. In fact, Avnet had spent several years trying to get the project made as a feature, and the film will probably be released theatrically in Europe. Bearing this in mind, Lenoir opted to shoot *Uprising* in the Super 1.85 format with both common top and bottom lines, effectively adding side information from the standard 1.33:1 TV frame. (At press time, it had not been determined whether the film would air with letterboxing.)



Once the stylistic parameters of the film were established, Lenoir began planning his lighting strategy. "Starting with the shadow-into-light instruction from Jon, which in effect meant single-source lighting, I decided to utilize a lot of source motivation and use much more contrast.

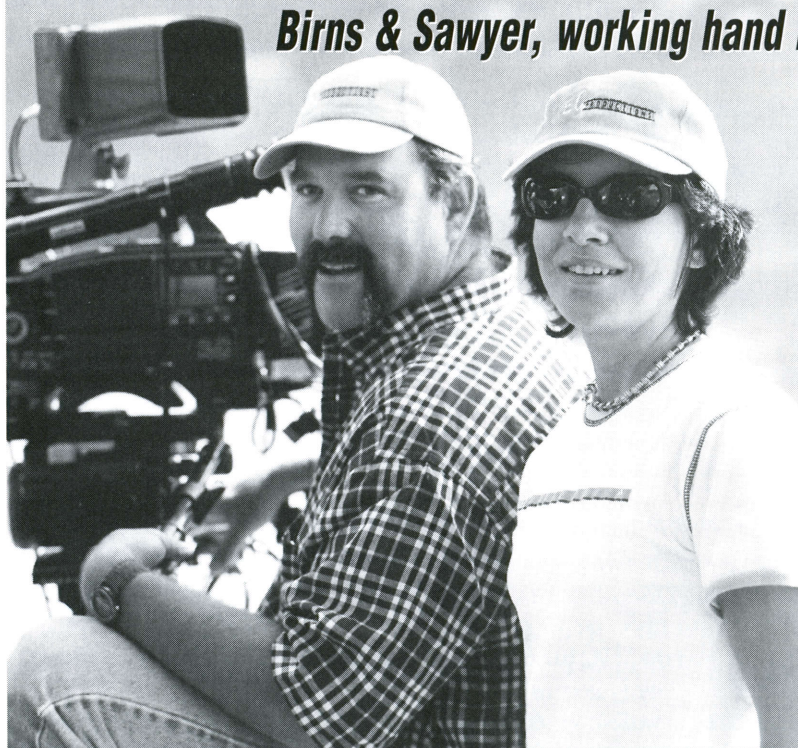
Naturally, if you use fill light, you don't get the effect of someone moving from darkness into light in one step.

"When we looked at some archival footage of the ghetto during that time, we were amazed to see that on one side of the wall were emaciated Jews just dying of hunger, and on the other side the Poles were going about their normal days," he adds. "The contrast was incredible; it was like heaven and hell. To make this clear to the audience, we decided that the Aryan side of the wall would be filmed a bit differently than the ghetto side."

Lenoir employed Kodak Vision 200T 5274 to shoot the Aryan side, and Vision 320T 5277 without any 85 correction to shoot the ghetto side. "The 74 has a bit more contrast and is also a bit more colorful, and for those scenes we used 85 correction and sometimes even a quarter Pro-Mist

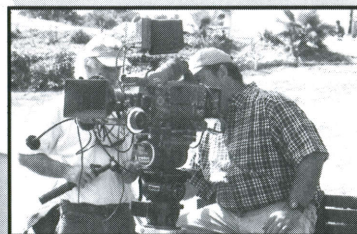
Seated in a custom descending rig, Lenoir operates a vertical dolly shot that carries the rebels from an earthen tunnel, down a three-story ladder, and into the resistance's subterranean bunker. Explains Lenoir, "Jon had the idea to have the camera follow the actors down the ladder and then have the operator step off the rig and follow them into the depths of the bunker set through several tunnels, which entailed several 360-degree shots. The device worked very well and we ended up using it several more times, going up and down with different actors in other scenes."

Birns & Sawyer, working hand in hand with DP's and Producers.



"I am a film snob, but now I am becoming aware of other possibilities. We decided that the look is not 35mm, nor is it video, but Panasonic HD 24 fps 720 Progressive, a beautiful new medium. And I am excited to explore its possibilities.

Being a documentary filmmaker first and foremost, I am dying to shoot my next doc in this medium. Thanks Birns & Sawyer. You're great, and your customer service is the best."



DIRECTOR/D.P. ERIC CHRISTIANSEN & PRODUCER/A.D. KIKI FOOTE shooting "Rembrandt Toothpaste" multimedia ad campaign.



Panasonic

MOVIECAM

ARRI

Cooke
OPTICS SINCE 1893

AATON

Professionals Expect Nothing Less Than Pure B.S. - Birns & Sawyer.

1026 North Highland Ave • Hollywood, CA 90038 • Phone (323) 466-8211 • Fax (323) 466-1868 • Web: www.birnsandsawyer.com • E-mail: info@birnsandsawyer.com

Fighting Back

After the destruction of the ghetto, the rebels continue their struggle amid the fallout. The massive "Rubble Set" was erected adjacent to a decrepit, burned-down warehouse and was utilized for day, dusk and night scenes. To create a sustainable "dusk" look, Lenoir ordered a 200' construction crane, from which the crew suspended a custom 20'x20' soft box containing groups of 9-light Maxi-Brutes. Lenoir plans to time the scenes "dark and cool to lend an almost twilight feel to the scenes." For night scenes, the apparatus was dimmed significantly and used to create a more moody back/toplight edge on the actors.



diffusion to make it seem more pleasing. As a result, the Aryan exteriors have a much richer color palette."

Lenoir also utilized Kodak's new Expression 500T 5284 stock for the film's night interior and exterior sequences. "At the beginning of the shoot, it hadn't yet been determined whether the film would be finished by tape-to-tape transfer or from a cut negative," he notes. "Fortunately, it was decided that we'd go back to the negative for the final transfer. I therefore felt very comfortable about taking some risks — being sourcey and high-contrast with the lighting — because I knew that with the Vision 320T and the Expression 500T, I could accentuate or diminish

that contrast range later."

Slovakia's typically bleak and unstable spring weather produced lighting conditions that were usually favorable to the production. "If we didn't have an overcast sky, we'd provide fill with some bounce or lights and then try to work mostly with backlight," Lenoir says. "Of course, we had to film a few scenes in full sunlight. On such a tight schedule, it's just impossible to stop and wait on weather. Fortunately, the desaturation we planned to use helped with any mismatched light.

"I'll also be able to change the contrast a little in telecine. Our strategy is to time the scenes to be cold, desaturate the colors and enhance

the contrast, crushing the blacks and popping the whites. Because we had so many dark backgrounds, we automatically got a kind of glow from the actor's skin."

The film's interiors presented Lenoir with a range of lighting situations. As the Jewish rebels intensify their efforts, they become entrenched in the bowels of the ravaged city. Moving from standard apartments and warehouses, they eventually retreat into underground bunkers, tunnels and sewers.

A primary set is the rebels' main headquarters, known as the ZOB headquarters. "That set is supposed to be in some sort of cellar just below street level," explains Lenoir. "At that moment in the story, the Jews still had electricity in the ghetto, so I was happy to mix our practical fixtures, which were dimmed down to about 2500°K, with cooler daylight at around 4500°K. We shot all of those scenes without 85 correction. The set had very low ceilings, dark walls and a few small windows on the sides, which could give some strong yet soft side highlights.

"I also used some atmosphere to soften the edges and lend the sets some depth. I therefore created a rule: if we were in a room with 10 or more people, there had to be some atmosphere, whether that meant sweat or smoke from cigarettes."

Lenoir created much of the set's ambience and depth with many strategically placed practical fixtures, which ranged from China hats and small table lamps to naked bulbs hanging from the ceiling. He then supplemented these sources with 1K Redheads and Kino Flo units tucked into any out-of-shot corner. While the practicals provided much of the environmental illumination, the myriad naked bulbs casting criss-crossing shadows from the ever-moving camera presented another challenge to shot choreography. An impromptu solution was to affix a

1½'-wide, head-shaped foamcore cutout to the camera. "With the cutout attached to the mattebox, if we caught a camera shadow while following a character, it would look as though the shadow was cast by another character," Lenoir details.

Another significant set is the underground bunker located on Mila 18 street. Constructed on three levels of the factory building on the "back-lot," the sets were linked with a central, 6'-wide shaft cut through the concrete floor. Because the set is supposed to be underground, Lenoir utilized many on-set practicals. "I had to make a radical decision, which was to light without justification. When we first see this location, the Jews still have electrical power, so we used practical lights and bulbs to motivate our lighting. Because it was underground, however, we lit the scenes as if it was nighttime 24 hours a day.

"After they lose electricity, they have to light the bunker with candles, lanterns and oil lamps. Now, if we'd been a large-scale production and had had no ceilings and plenty of time to rehearse complex dimmer-board adjustments and choreography, we might have been able to develop a proper candlelit technique to accentuate this idea. But we had more than 100 extras and were moving with handheld cameras from many different rooms with hard cement ceilings, often covering a full 360 degrees, so I decided to use strong, totally unmotivated crosslight that was slightly warm to imply candle and lantern light. If you're in a room with 20 or more people, you can often just put up a bunch of crosslight and everything will basically be fine. With smoke added, it works very well."

Uprising culminates with the rebels fleeing into a network of filthy sewers. Constructed on stage at Bratislava's Koliba Studios, the sewer sets were created in two parts; the first was a low-water set where the characters trudge through knee-high

Cost effective · Hassle free · Special effects



- Movies, television, special events, sporting events, music videos
- 15 or 6K HMI parlights
- Remote control to pan, tilt and focus
- Quick set-up and relocation
- More cost effective than conventional lighting

MUSCO
Lighting

We Make It Happen.

For equipment information
and quote call

888/988-6025

SUPER 16 CINE LENSES

OpTex
Dynamic Imaging

The OpTex Super Cine Range is a matching series of prime quality wide angle lenses designed specifically for Super 16 cameras. With their superb optics, these lenses give very sharp images with low distortion, setting virtually unparalleled standards of quality in Super 16 wide angle lenses. OpTex prime quality wide angle lenses offer all of these features:

- Luminous T stop and focus scales
- Accept standard Tiffen 86mm correction filters
- Built-in focus and iris gear
- Multicoated lens elements
- Manufactured in the United Kingdom by OpTex

We're setting the standards in Super 16 lenses.

4mm f1.8/T1.9

8mm f1.8/T1.9

5.5mm f1.8/T1.9

CAMERAS & LENSES

ACCESSORIES

LIGHTING

NON-LINEAR EDITING

RENTALS

HIGH DEFINITION

DIGITAL

International Distribution by OpTex
+44 (0)20 8441 2199, fax +44 (0)20 8449 3646,
e-mail sales@optextint.com
or read more on www.optextint.com

US Sales contact ZGC:
264 Morris Avenue, Mountain Lakes, NJ 07046
(973) 335 4460, fax (973) 335 4560
e-mail sales@zgc.com or read more on www.zgc.com

OpTex
Sales & Rental

Fighting Back

Director Jon Avnet (right) confers with actors Cary Elwes, John Ayles and Leelee Sobieski in the sweatshop textile-factory set. Shot in the production's makeshift soundstage in an abandoned factory on the ghetto backlot, the scenes incorporated many of the film's stylistic trademarks: mixed lighting from dimmed practicals and cool daylight through windows, background atmosphere created via the liberal use of smoke, and complex camera choreography.



water, and the second was a deep-water set constructed in a water tank equipped with large dip tanks, which could send waves crashing toward the actors. To film in the low-water set, the camera was wrapped in plastic bags; in the deep-water set, a splash bag was used for surface-level and underwater shots.

Allotted just three days to film

the sewer sequences, Lenoir wanted to devise a lighting strategy that would both be fast and believable. Working from overhead manhole shafts spaced about 30 feet apart, the cinematographer was able to motivate a fair amount of light from above with 4K HMIs aimed straight down through the manholes. However, this light only went so far

in rendering the actors visible for a short time. "The production had built the sewer sets with the idea that we'd fly walls out and such," Lenoir recalls. "However, I felt we'd be dead if we did that. I don't like to fly walls, even on very large sets; it always feels somewhat like a POV shot from inside a fridge. I felt that the light from the manholes could be slightly overexposed, and with some atmosphere we could create a nice feeling of depth and help justify some source light. I remembered a cinematographer I had assisted, the late Bernard Lutic [*Revolution*], tying a white towel around his belly and bouncing a little light into it to provide some fill as he followed the camera. That gave me the idea of having a light travel with the camera to help illuminate the actors.

"I noticed that several members of the camera department had just received some new SureFire

COPTERVISION

Remote Systems for Film and Video

GET IN THE ACTION

www.coptervision.com

State-of-the-art remote control helicopters for aerial cinematography



P.I.G., "Subaru Forester"

COPTERVISION Representatives:

Los Angeles 818.781.3003 • Germany +49(0)2244.918.567 • Vancouver 604.296.2622

ROLLVISION

Wireless Systems for Film and Video

WATCH FOR IT IN:

"TRAVELOCITY.COM"

DP - Jeffrey Kimball

"COLLATERAL DAMAGE"

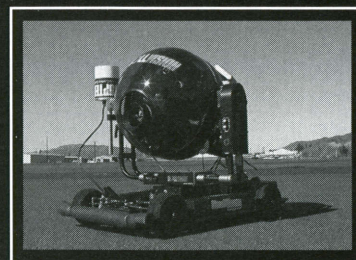
DP - Adam Greenberg, ASC

"THE SCORPION KING"

DP - John Leonetti

3-axes wireless camera system • 360° roll • 360° pan • 360° tilt

For use with Steadicams™, Camera cars, Cranes, Jib arms, Rail, Cable systems, etc.



ROLLVISION on RadCam

ROLLVISION Rentals and sales:

Birns and Sawyer 323.466.8211 • Innovision Optics 310.394.5510 • Abel Cine 718.273.8108

flashlights," he continues. "When I looked at the SureFire catalog, I saw that a small light could produce around 60 lumens. The props department discovered that they could place the entire flashlight inside a period flashlight; we therefore had a period flashlight that housed an incredibly powerful, waterproof SureFire light. We had the actors carry these flashlights in the sewers, and I also shined one of the flashlights into a 1-by-1½-foot bounce board covered with silver Roscoflex in order to bounce light back into the actors' faces — as if their flashlights were reflecting back on them."

All of the sewer sequences were photographed on the Expression 500T stock, which Lenoir pushed one stop to help capture the faint flashlight effects reflecting off the shiny sewer walls and the subtle bounce light on the actors' faces from his

handheld traveling unit. He shot the daylight scenes in the sewers with no 85 correction, allowing them to be rendered a cooler blue, while nighttime scenes were colored warmer, a look motivated by the flashlights' dim glow.

The final month of the shoot was devoted to the film's three biggest battle sequences and several ancillary skirmishes. Photographed entirely on the ghetto set, the sequences involved more than 800 extras, several tanks and armored vehicles, intricate stunt and special-effects explosions, and live fires and choking clouds of black smoke. Most of these scenes were shot with four or five cameras which were set with 90- or 45-degree shutter angles. Occasionally, Clairmont's Image Shaker was also used to accentuate large explosions.

Upping the ante for realism, Avnet designed several "tie-in" shots that placed the actors in front of

enormous backdrops of battle carnage and mayhem. "There are more tie-in shots in this movie than in any movie I've ever seen," he says. "The ability to execute these tie-ins had a lot to do with the physical design of the set; we built their look-outs specifically so that we could see down the street. However, actually pulling off the shots had much more to do with the sheer muscularity of the camera crew, and they were like greased lightning by then. The battles are pretty amazing, but in the story they weren't fought by professional servicemen, so they have an element of humor, fallibility and invention that is very identifiable.

"This story is about regular people who had to rise to the occasion in an unbelievable situation, and making the movie required the crew to rise up and meet enormous physical challenges," he concludes. "It was quite an experience." ■

Now playing at a theater near you.

MoleBeam

A Classic Design...Perfected.

Watch for the Beam effects while you're spotting dinosaurs, seeking artificial intelligence, raiding tombs, unearthing mummies or avoiding primates... the Molebeam has this year's blockbuster films covered.



Type 8311
2,000 Watt
18" Tungsten



Type 8331
5,000 Watt
24" Tungsten



Type 8351
20,000 Watt
36" Tungsten



Type 8211
1,200 Watt
18" HMI



Type 8361
2,500/4,000 Watt
24" HMI



Type 8341
12,000 Watt
36" HMI



Stylish TV Signals



A talented group of cinematographers attended Eastman Kodak's annual Emmy dinner at the Bistro Garden restaurant in Studio City, California. Back row, from left: Hiro Narita, ASC, Stephen Goldblatt, ASC, Billy Dickson, Ken Lamkin, ASC, Donald M. Morgan, ASC, Dennis Smith, ASC, Henry Adebajo, James Cressanthis, Bill Roe, ASC, Tony Askins, ASC. Front row, from left: Thomas Del Ruth, ASC, Vittorio Storaro, ASC, AIC, Haskell Wexler, ASC, Sandra Chandler, Mike Berlin.

The Academy of Television Arts & Sciences honors cinematographers with Emmy Awards after a season of first-rate images.

by Stephen Pizzello

In recent years, the expansion of Emmy Award categories for cinematography has proven that the television industry truly values the contributions of its top directors of photography. There are now five different categories to honor cinematographers working in the TV realm: Single-Camera Series, Multi-Camera Series, Miniseries or Movie, Non-Fiction Programming and Lighting Direction for Electronic, Multi-Camera Programming. This year's technical awards were presented on Saturday, September 8, at the Pasadena Civic Auditorium.

Of course, the expansion of the awards implies that there's an abundance of excellent work being done, and anyone who's been watching TV lately would certainly agree. For example, viewers who enjoy situation comedies may have noticed that their favorite shows are becoming ever-more ambitious. Most modern sitcoms have abandoned the simpler lighting schemes and limited settings that virtually defined TV comedies in decades past, opting instead to offer a wide range of looks and locations. Among this year's nominated comedy series, *Will & Grace*, *Everybody Loves Raymond*, *Frasier*, *Spin City* and *Ally McBeal* broke out of the box with scripts that allowed their cinematographers to create a variety of moods with more intricate lighting and camera coverage.

Experimentation has also been the order of the day in more dramatic series and telefilms. The

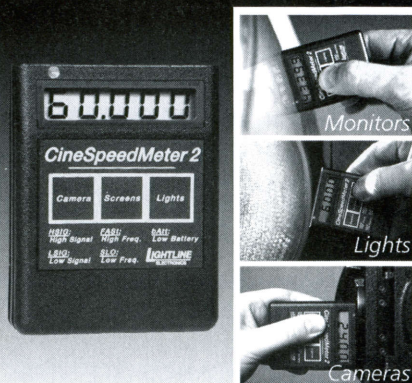
makers of *100 Centre Street* are exploring an entirely new aesthetic by shooting their show on 24p high-definition video, while HBO's *Conspiracy* was filmed in Super 16mm, digitally timed, and then output to 35mm film for broadcast.

These types of artistic opportunities have not gone unnoticed by highly regarded feature-film cinematographers, who now seem to be increasingly intrigued with the prospect of shooting ambitious or experimental projects for the small screen. This past year alone saw the airing of great TV work by ASC members Vittorio Storaro, who shot the miniseries *Dune* for the Sci-Fi Channel; Haskell Wexler, who entered hardball heaven on the HBO baseball film *61**; and Stephen Goldblatt, who shot the aforementioned *Conspiracy*.

Unfortunately, the expansion of cinematography's Emmy categories also has its drawbacks. Because there are now so many nominees, we've decided this year to feature our traditional Emmy profiles on the ASC's Web site (www.cinematographer.com), where we can give all of the nominees their proper due. Many of this year's honorees have already been covered in the magazine, but fresh interviews with all of the cinematographers appear on the site. What follows is a list of all of the winners and nominees in each category, with references listed for those whose work has already been covered in *AC*.

CineSpeedMeter2

Reads Monitor Scan Rates To .001Hz
Checks for Light Flicker
Monitors Generator Frequency
Checks Camera Frame Rates



Stocking Dealers:

Hollywood/ Mole, Birns & Sawyer
New York/ Barbizon Electric
Denver/ Film/Video Service Equipment
Vancouver B.C./ PS Northern Lights
Contact Us For Other International Dealers

LIGHTLINE
ELECTRONICS

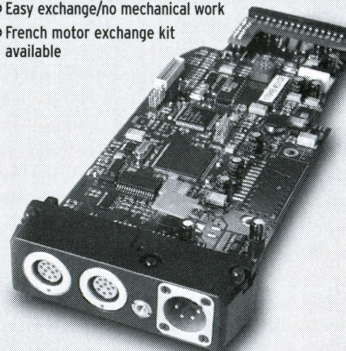
723 NW 18th Ave. Tel: (503) 222-1822
Portland, Oregon 97209 Fax: (503) 222-1977

Visit our site @ www.lightlineelectronics.com

P+S TECHNIK®

Exchange board for ARRI 16 SR

- ◊ Low power usage in stand by and RUN mode
- ◊ Second 11 pin Fischer connector with 12 V/1.6 A max
- ◊ Fully compatible for the 16 SR II, 16 SR II HS
- ◊ Speed selector for 10 preprogrammed camera speeds
- ◊ Easy exchange/no mechanical work
- ◊ French motor exchange kit available



Features only for Evolution Version with Display

- ◊ Programmable Ramp program
- ◊ Intervalometer functions installed
- ◊ Displaying the battery voltage
- ◊ Take-counter and Footage-counter in meter or feet
- ◊ When using a VSU, the chosen speed will show on the display

P+S TECHNIK® GmbH · Munich local contact

Tel. ++ 49 89 45 09 82 30
Fax ++ 49 89 45 09 82 40
E-mail: info@pstechnik.de
www.pstechnik.de

CAMWERKE Inc.
2003 Springcreek Circle
Upland · CA 91784 · USA
www.camwerke.com

Stylish TV Signals

OUTSTANDING CINEMATOGRAPHY FOR A SINGLE-CAMERA SERIES

Thomas Del Ruth, ASC**
The West Wing, "Noel" (NBC)
(See AC Oct. '00 and May '01.)

John Beymer
Law & Order, "Endurance"
(NBC)

Hugo Cortina
JAG, "Adrift, Part I" (CBS)
(See AC March '00.)

Billy Dickson
Ally McBeal, "Cloudy Skies,
Chance of Parade" (FOX)
(See AC May '01.)

Bill Roe, ASC
The X-Files, "This Is Not
Happening" (FOX)
(See AC March '00 and May '01.)

Dennis Smith, ASC
The Practice, "The Deal" (ABC)
(See AC May '01.)

OUTSTANDING CINEMATOGRAPHY FOR A MULTI-CAMERA SERIES

Tony Askins, ASC**
Will & Grace, "Sons and Lovers"
(NBC)

Mike Berlin
Everybody Loves Raymond, "Italy"
(CBS)

Ron Fortunato, ASC
100 Centre Street, "Things
Change" (A&E)
(See AC April '01.)

Ken Lamkin, ASC
Frasier, "And the Dish Ran Away
With the Spoon" (NBC)

Mikel Neiers
Spin City, "Hello Charlie" (ABC)

OUTSTANDING CINEMATOGRAPHY FOR A MINISERIES OR MOVIE

Vittorio Storaro, ASC, AIC**
Frank Herbert's Dune
(See AC Feb. '01.)

James Cressanthis
*Life With Judy Garland: Me and
My Shadows* (ABC)

Stephen Goldblatt, ASC
Conspiracy (HBO)

Donald M. Morgan, ASC
*For Love or Country: The Arturo
Sandoval Story* (HBO)
(See AC May '01.)

Elemer Ragalyi
Anne Frank, Night 2 (ABC)

Haskell Wexler, ASC
*61** (HBO)
(See AC May '01.)

OUTSTANDING CINEMATOGRAPHY FOR NON-FICTION PROGRAMMING

John Davey, Noel Smart
and Didier Portal**
Land of the Mammoth (DISC)

Henry Adebajo, Greg
Andracke, Hiro Narita, ASC and
Brian Sewell
*Half Past Autumn: The Life and
Works of Gordon Parks* (HBO)

Len Beard, Tom Cowan, Richard
Dallett, Leighton De Barros, Michael
Dillon, Scott Duncan, Randall
Einhorn, Raj Gibson, Tom Gleeson,
Jim Harrington, Mark E. Hryma,
Mark E. Lynch, Brian D. Marleau,
Ryan Mooney, Paul Moss, Michael
Murray, Peter Pescell, Peter Pilafian,
Matthew Sohn, John Tattersall,
Martin Unversall and Fred
Wetherbee

Survivor, "A Honeymoon
Without Sex" (CBS)

OUTSTANDING CINEMATOGRAPHY FOR NON-FICTION PROGRAMMING (continued)

Ken Burns and Buddy Spires
Jazz, "A Masterpiece by
Midnight" (PBS)

Sandra Chandler
*Living Dolls: The Making of a
Child Beauty Queen* (HBO)

OUTSTANDING LIGHTING DIRECTION (ELECTRONIC, MULTI-CAMERA)

Jeff Ravitz, Lighting Designer,
Gregg Maltby,
Lighting Director**
*Bruce Springsteen &
The E Street Band* (HBO)

Robert A. Dickinson, Lighting
Designer; Robert Barnhart, Matt
Firestone, Andy O'Reilly,
Lighting Directors
73rd Annual Academy Awards
(ABC)

Jeff Engel, Lighting Director
*Politically Incorrect With Bill
Maher* (ABC)

Peter Morse, Lighting Designer;
Bob Dickinson, Lighting
Director
Barbara Streisand: Timeless
(FOX)

Gary Thorns, Lighting Director,
Patrick S. Steele,
Lighting Director
*The Tonight Show With
Jay Leno* (NBC)

** Denotes Winner

SPECIAL REPORT

PROTECTING OUR HERITAGE

**Studio executives, cinematographers
and lab and storage experts
discuss the steps they are taking to
preserve and restore moving images.**

The State of the Art

Key figures from MGM, Paramount Pictures, Sony Pictures, Universal Studios, Walt Disney Co. and Warner Bros. discuss the perilous past, profitable present and foreseeable future of moving-image preservation in Hollywood.

Interviews by Bob Fisher and Rachael K. Bosley
Edited by Rachael K. Bosley

Although film is more than 100 years old, major American studios have been making a concerted effort to preserve it for less than 20. It wasn't until the late 1980s, when VCRs and movie channels began proliferating in American homes, that most studios realized their celluloid assets might have lives beyond theatrical release — and lucrative lives at that. Over the subsequent 10 years, the seven studios with sizable libraries — MGM, Paramount, Sony Pictures, 20th Century Fox, Universal Studios, Walt Disney Co. and Warner Bros. — established asset-protection programs to provide for the inspection, preservation and restoration of their films.

Concern about their libraries had prompted studios to take some action before, in the 1960s and 1970s. The cellulose nitrate base common to film elements made prior to 1951 had proved to be not only flammable when projected in certain conditions, but also spontaneously combustible when improperly stored, and after a rash of nitrate fires in the late 1940s studios began copy-

ing their nitrate originals onto acetate-based safety stock.

In the late 1980s, the film community discovered that acetate-based stock developed its own problems over time, namely pronounced color fading and “vinegar syndrome,” a decay named for its odor (see *AC* June '96). Research by the Rochester Institute of Technology's Image Permanence Institute showed, however, that low-temperature, low-humidity storage could retard and most likely prevent both problems. By the early 1990s, studios had built and rented such storage facilities not only in Los Angeles, but also in the East and Midwest; by keeping elements such as original negatives, interpositives (IPs), internegatives (INs), and separation masters (black-and-white records of the yellow, cyan and magenta layers of a color image) geographically separated, they hope to ensure that a single fire, flood or earthquake won't cause a film to disappear.

New technologies have alternately aided and complicated the preservation effort. Some innova-

tions, such as Kodak's Color Reversal Intermediate (CRI) stock, have come back to haunt the studios that embraced them. CRI, which earned Kodak an Academy Award for Scientific and Technical Achievement in 1968, was touted as a protection element from which prints could be made, eliminating the need for an IP (the element from which prints and duplicate negatives are typically made). The stock was widely used throughout the 1970s, particularly in the production of opticals, but it proved to be highly problematic. “Although its life depends a bit on how it was processed, CRI is probably the most unstable film stock ever developed,” observes Paul Rutan Jr., co-founder of Triage Motion Picture Services, a film-restoration lab in Los Angeles. “The fixer doesn't fix, and the film keeps developing. CRIs are one of the reasons we're in business.”

A more recent Sci-Tech Academy Award winner, the Rochester Institute of Technology's A-D (acid detector) strip, looks like it will yield happier results. A diagnostic tool that facilitates the detection of acetate decay before deterioration



All That Jazz (1979), shot by Giuseppe Rotunno, ASC, AIC, was recently restored by 20th Century Fox, the Academy Film Archive and Sony Pictures. Rotunno, who earned an Oscar nomination for his cinematography, retimed the restored film after Triage Motion Picture Services completed the lab work.

begins, the A-D strip is now employed by a number of studios to monitor the health of their acetate-based elements.

In addition to staying abreast of such technologies, Hollywood's asset-protection managers must keep up with the demands of a burgeoning marketplace. The differing ideals of art and commerce that have defined Hollywood since its inception pervade preservation work as well. Although major studios now make preservation elements on new features as a matter of course, most asset-protection managers acknowledge that how quickly they attend to an older title is determined largely by whether their studios perceive an imminent market for it.

Because the longevity of any digital medium is a great unknown, Hollywood's asset-protection managers unanimously agree that film is the only archival medium for motion pictures. Even the library at the newest major studio, DreamWorks SKG, consistently pushes for analog assets. "We don't

know of a proven way to store digital files for an extended period of time," says Anthony Jackson, director of the DreamWorks archive. "Our concern with a lot of digital material is that ... you not only need to have the hardware to operate the media, but you also have to have the proper software to accurately interpret it. We store and manage the digital assets we receive, of course, but we'll continue to push for delivery of analog versions of assets because analog is proven."

AC recently conducted separate interviews with Hollywood's asset-protection managers about these and other matters, and excerpts from our conversations follow. Interviewees are, in alphabetical order according to studio:

MGM: Gray Ainsworth, senior vice president, technical operations;

Paramount Pictures: Phil Murphy, director, operations, and Barry Allen, executive director, broadcast services;

Sony Pictures Entertainment: Grover Crisp, vice president, asset

management and film restoration;

20th Century Fox: Schawn Belston, director, film preservation and worldwide library services;

Universal Studios: Bob O'Neil, executive director, preservation/vault services;

Walt Disney Co.: Scott Kelly, executive director, library and preservation services, and Scott MacQueen, senior manager, library restoration; and

Warner Bros.: Richard P. May, vice president, film preservation.

THE LIBRARIES

Scott Kelly: The Disney library consists of about 1,256,000 items right now, and it grows at a rate of about 10-15 percent each year. One film element can have 10 items — an item means a single can. When Disney bought ABC in '96, we acquired ABC's film library. That included ABC/Circle Films such as *Take the Money and Run*, *Prizzi's Honor*, *The Flamingo Kid* and *National Lampoon's Class Reunion*, as

The State of the Art



Sony Pictures collaborated closely with Conrad Hall, ASC on its recent restoration of *In Cold Blood* (1967), for which the cinematographer earned an Oscar nomination. Cinetech provided the lab services.

well as telefilms like *The Day After*. ABC had also acquired 21 of David O. Selznick's productions, which include *Notorious*, *Rebecca*, *Duel in the Sun*, *The Garden of Allah*, *Farmer's Daughter* and *The Adventures of Tom Sawyer*.

Gray Ainsworth: MGM's library includes about 4,100 features and 10,000-15,000 hours of TV. Ours is a younger library; we have United Artists and Goldwyn films that go back to the nitrate era, but the bulk of it is post-World War II. Among our holdings are post-1986 MGM pictures [Ed. Note: *The studio sold the MGM library to Turner Entertainment Co. in 1986.*], the United Artists library, Orion Pictures, Goldwyn, Cannon, AIP and some Polygram titles. We also have what we call Epic titles, which is an aggregate of about 30 independent film companies that went bankrupt in the 1970s and 1980s, including Hemdale, Sultan and Transworld.

Bob O'Neil: The Universal library consists of more than 4,000 feature-length titles, roughly 20,000 episodes of TV, and hundreds of short subjects. We've got roughly 1,400,000 bar-coded elements.

Almost all of our material is from the sound era. We don't have many silent films, but I can't think of a single Universal sound title we still retain rights to that we don't have in some usable form. The main library we've acquired is the 1929-1948 Paramount Pictures library, which is more than 700 titles.

Grover Crisp: The Sony Pictures library encompasses Columbia Pictures and TriStar Pictures, and it includes approximately 4,000 features; many, many shorts; cartoons; serials; some documentaries; and TV. Although we've acquired some individual titles over the years, we haven't acquired any other complete film libraries.

Schawn Belston: The Fox library holds roughly 2,000 Fox features, the New World library, the MTM Television library and about 150 TV shows. The New World library is the largest library we've acquired since I came to Fox six and a half years ago; it consists of about 24 series, including *St. Elsewhere* and *Hill Street Blues*.

Phil Murphy: The Paramount library is currently about 55,000 hours of product, which includes film and TV and spans almost the

entire sound era. At the time we instituted an asset-protection program in the mid-1980s, our library consisted of post-1948 Paramount titles, which numbered about 800, plus TV. A few years ago we acquired most of the Republic Pictures library, which dates back to 1935.

Richard May: The Warner Bros. library is now about 6,000 features and lots and lots of TV and shorts. When Turner Entertainment merged with Time Warner almost five years ago, the Turner library consisted of about 3,000 features and 3,000 shorts and included MGM titles up to 1986 and Warner Bros. films up to 1949 — Warner had sold that material to MGM back in 1955. The Turner library also included RKO Pictures. So when the merger happened, the old Warner films came back into the fold, and the MGM and RKO films came under our umbrella as well.

PRIORITIES

Murphy: Since the mid-Eighties, when Paramount started to acquire other films, determining which titles we'll look at next has been driven by which markets are coming up. Keeping up with that is like being on a treadmill. At the same time, we realize that although much of the Republic library wouldn't necessarily surface in a marketing plan, it has problems unique to itself. Much of it is nitrate-based, and once nitrate goes you don't have much time to react. Our own library was in reasonably good condition; the challenge has been taking on film-based material of myriad origins whose condition we weren't responsible for for decades.

Belston: Fox initiated a true restoration and preservation program two years ago. We inspect about four films per month, and we try to choose from different eras of photography and film stocks to create a kind of 'core sample.' We'll

COMING FALL 2001

UNIVERSAL STUDIOS

new 18,000 square foot

DIGITAL MASTERING AND AUDIO RESTORATION CENTER

enhancing our existing services featuring expertise in:

DVD Mastering

Audio Restoration/Evaluation

Digital Picture and Sound Dailies



UNIVERSAL STUDIOS
OPERATIONS GROUP

818.777.0169 800.892.1979

THE FILMMAKERS DESTINATION
WWW.UNIVERSALSTUDIOS.COM/STUDIO

The State of the Art



MGM collaborated with Haskell Wexler, ASC on the restoration of *In the Heat of the Night* (1967). The project involved both digital and photochemical work because the physical damage sustained by the original negative had been printed into the separation masters.

make minor repairs or new preservation elements on the titles that don't require extensive restoration or immediate attention; the others are either added to the ever-growing list of films to be restored, or, if they're in good shape and backed up with ample preservation elements, they're returned to storage. In addition, we make YCM separation masters on about 30 library titles each year — Fox didn't make any preservation elements from 1979 or 1980 until 1997.

At the moment my main focus is preserving the TV library because none of that material was ever protected. Many of the shows are now being sold to other markets, which is a great way to justify making preservation materials on them. Right now we're working on *Hill Street Blues* [1981-87]. We're trying to stay ahead of the curve on preserving TV shows because the home-video market seems to be exploding, and everything will be sold sooner or later. Unfortunately, we often get into projects only when someone needs them.

May: Our preservation budget

at Warner Bros. is established every year, and I generally work with that on a chronological basis, copying the oldest titles first. We still have most of the pre-1948 Warner Bros. shorts on nitrate. I'd say about 1,350 of the 1,500 live-action shorts have yet to be copied onto safety, but we're set up to do it and we will. MGM actually began to transfer its nitrate materials onto safety film in the late Sixties. During the slower periods at Metrocolor, the MGM lab, the staff did those transfers — and they did everything, including three-strip Technicolor films, trailers and shorts. Fortunately, Turner Entertainment inherited MGM's preservation philosophy and supported our efforts completely, both morally and financially. Warner Bros. started to make separation masters when Eastman color came in in the Fifties, but there's a gap in the Eighties when it wasn't done for financial reasons, so we're going back and making them now on those titles.

Market needs have always had an effect on preservation priorities. Back in the Turner days, the colorization of black-and-white

movies was a motivation for preservation. Regardless of whether colorization was good or bad, we had to have the best possible video master in order to do it. That caused a lot of preservation to happen, and we're even redoing some of those titles now because the technologies are always improving.

Kelly: Our first priority was transferring nitrate materials onto safety film, which Leon Briggs began doing in 1988; through the early 1990s, we transferred all of the nitrate animated titles. There was a real run on the ABC library at Disney couple of years ago. I think we worked on 80 percent of it, mostly for DVD release. That project was entirely market-driven, as is most of the work we do. Scott MacQueen recently finished preserving the ABC series *Moonlighting*, and the impetus for that work was our international TV division. The show is not that old, so we probably wouldn't have worked on it if it hadn't been requested.

O'Neil: Our first priority at Universal is a title that's decomposing or only has nitrate backing. We get to those as quickly as possible. Beyond that, we look at the titles whose safety elements were made in the Fifties and Sixties, and we redo those because the technology is so much better today. We're also now inspecting all of our black-and-white titles using the A-D strips, and we're literally going on a title-by-title basis.

When you think about it, everything we do is market-driven. If we're not working on something that's going on the air next week, we might be working on something that's never been used but might one day go on the market. If we don't preserve it, we've lost it for that market.

Crisp: Our asset-protection program really came about after Sony purchased Columbia Pictures in 1989. Our overall game plan is to preserve and, if need be, restore

virtually everything in the library, regardless of whether it's a feature film, a cartoon or a short. Not every title needs to be restored, of course, but many are still in need of proper preservation elements — good IPs, valid separation masters, correct printing negatives, et cetera. We might look at a title for a variety of reasons: for a DVD release, for a hi-def transfer for broadcast, or if we get a report through our normal inspection process that the film needs to be looked at.

Sony is interested in the content of this library, and in terms of synergy with the parent company, I must say that Sony has been very supportive of the preservation effort. You can look at this library as part of our cultural, historical and artistic heritage, which we recognize, but it's also a commodity. Sony recognizes the importance of what it has.

Ainsworth: As an MGM project is sold, we work on it. Whenever we do, our goal is to make sure we have adequate digital videotape for all of our servicing efforts, and incumbent to that is having proper film elements that have been fixed as much as they possibly can be and then duplicated and separated. If one of our managers has to deliver a PAL letterboxed videotape to a Spanish client, he or she has to make sure we have six versions of video for all possible uses and proper film elements. If they're not proper, we remaster them and make the best possible film elements.

MGM is planning to work on about a thousand titles in the next 24 months, which is extremely aggressive — about four times our normal pace. That plan is giving us a greatly increased opportunity to do the preservation and restoration we need to do. We've also discovered while cataloging our recently acquired material that a lot of it wasn't cared for properly, and in some cases we don't have all of the material we should have, or we don't know where

it's located. It's been a big effort to locate all of the materials we need.

REASONS FOR RESTORATION

Crisp: In general I'd say that [Sony's] library was treated the same way all studio libraries were treated. For many decades, original negatives were used as printing negatives, which is a punishing process to put negatives through time and time again. As a result, a lot of material was damaged, lost or destroyed. If we're fortunate, we have material that was made from the negative before it was damaged. We've been fairly fortunate in that for a substantial number of titles, we have ancillary materials we can actually use, whether it's YCM separations made at Technicolor in the Fifties that happen to be very good, or an IP or CRI that was made in the early Seventies that happens not to have faded and is in relatively good condition. Sometimes we get lucky, and sometimes we have practically nothing to work with and do the best we can.

O'Neil: In the old days, the labs weren't worried about old films, they were just worried about what

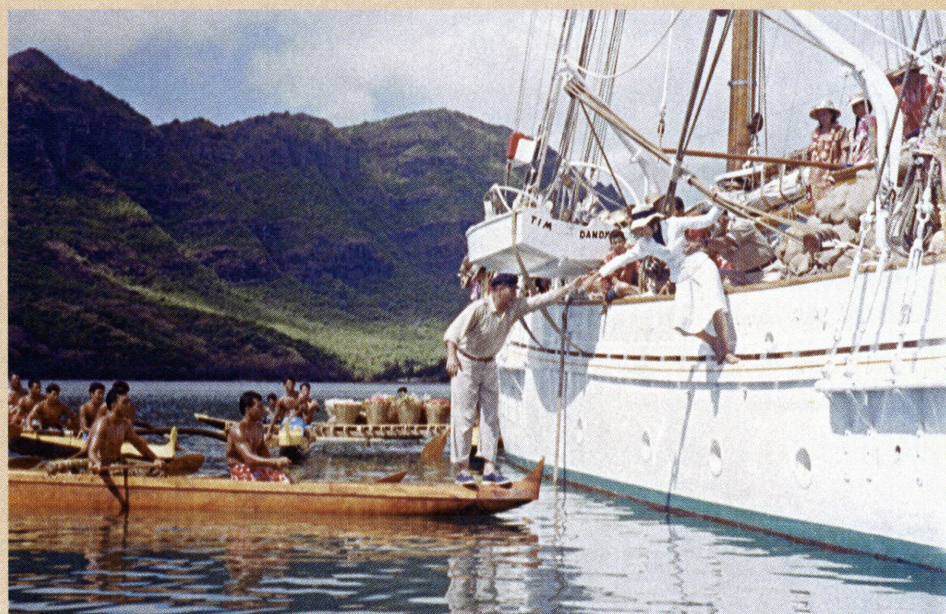
films were coming in that day. For decades, separation masters were made, put in a can and shipped off without being checked. Honestly, every show in every can is different, and you have no idea what you're getting into until you open the can and inspect the material. You might check a picture that was made as recently as 1984, and the original negative might have been scratched and treated with something to coat it because of that damage, and you might discover that the treatment caused accelerated aging. You just can't tell.

Ainsworth: Restoration to me implies that something that has gone missing either through negligence or circumstance has been put back together. Something that is not right has been made right — an original ending has been put back, a negative in poor condition has been made usable again, a soundtrack that has lost all detail has been brought back.

May: We do a restoration when film is worn, damaged, faded, et cetera, and needs either physical repair or replacement sections from previously made protection elements in order to be brought up to the best possible quality.

Barry Allen: An important

When Paramount Pictures took a close look at John Ford's comedy *Donovan's Reef* (1963), shot by William Clothier, ASC, they found that the original camera and separation masters were in very good condition. According to studio librarian Steve Elkin, the film's original negative was retimed, an answer print was struck and approved, and a new IP was made. Cineric in New York handled the lab work.



The State of the Art



Mildred Pierce (1945), which earned cinematographer Ernest Haller, ASC an Oscar nomination for best black-and-white cinematography, was recently restored by Warner Bros.

point to make is that not every film needs restoration. On most of our Republic titles, we can make a good print off what we have. When we did preservation work on *The Red Pony* [1949], for example, we worked from the original negative, which was completely intact, and did some sound restoration to take some noise out. If things happen to be preserved properly, restoration can be a snap.

Kelly: Restoring each of the Selznick titles is a lot of work — some of the nitrate materials have deteriorated, and the elements are scattered all over the place. Another challenge is that some of them were originally 90-100 minutes long but were subsequently cut down for reissues and TV broadcasts; we're trying to put those films back to their original theatrical length, and the trims weren't always properly identified when they were tucked away.

Belston: Restorations are projects that require an appreciable amount of technical work to get back to, or as close as possible to, the original theatrical presentation. Preservation was never a priority at Fox because I don't think the studio — or any of the studios — had any idea that it was a necessary part of their business. As we've gotten into

[the library] more, there are so many areas that need attention that it's really a constant sort of triage.

ETHICS OF RESTORATION

O'Neil: You can never really bring a film back to what it was originally. We don't have nitrate print stock any longer, black-and-white film has changed many times over the years, color intermediates have changed, and print stocks have changed. All you can do is use the gauge of today and do the best you possibly can. We try to use reference prints [to make some decisions], but you know as well as I do how much Eastman print stock has faded, and how many dye-transfer prints have decomposed. Sometimes there is very little concrete evidence of what a title looked like originally.

Ainsworth: There's a lot of debate about how to restore older films when the filmmakers are no longer around. Generally we try to make the film look like it did originally. If we're restoring a damaged piece of film digitally, we have to bear in mind that that piece will be put back into something that looks the way it used to look. In those

cases, we'll add grain and try all of the other ways to make it match the original look.

Crisp: One of the dangers in overseeing restoration is to unknowingly foist your own aesthetic sensibilities onto the work of art. These films are works of art, but they're not *our* works of art, and we need to guard against the impulse to make something 'better' than it was originally. Restoration shouldn't be about making an older film more modern, and it definitely shouldn't pander to the less demanding tastes of contemporary audiences just for the sake of making it more accessible to them. On the other hand, a 1939 film we print today is not going to look the way it did in 1939, and it never will. When we finished restoring *Easy Rider* [1969], all of the filmmakers essentially said the same thing: 'It almost looks better now than it did then.' And it probably does, because optics, printing processes and film stocks have all improved.

Belston: The ethics of restoration are something we confront all the time. Our goal at Fox is to get as close as possible to the original achievement. If that means there's a bump in every optical and the film is a little underexposed, so be it. There's something to be said about the craftsmanship and image quality of those old movies.

May: I've gone through two restorations of *Gone With the Wind*, in 1989 and in 1999. Every film buff out there claims he knows what that picture looked like when it was first released in 1939. We don't know of any existing original prints, however. I was actually working in a theater when the picture was reissued in 1949, and MGM used some original prints it had held in storage since the early Forties. I remember what it looked like because it was a big deal for a little neighborhood theater to be running this movie. It didn't have a lot of color, because the Technicolor printing process at that

The State of the Art

make a repair that just cannot be accomplished otherwise. But we don't like to have the texture of what we create change throughout the film's running time. Our ultimate goal is to serve an electronic marketplace, to make sure our material looks good when it's displayed electronically. But electronic systems continue to change rapidly, and the form of the film upon which all of this work began is constant. So should we prepare a product for electronic distribution without maximizing what the film original looks like, we're ultimately going to cost ourselves more money by jumping over and fixing it electronically. In another five years, when the ability to capture detail electronically improves by a quantum leap, we'll only have to do it again — and we'll have to go back to the film as the source.

MacQueen: Digital restoration tools need to be selectively employed — you don't use a flame thrower or an atom bomb to get rid of a hornet's nest on the side of your house. Digital technologies have their own character, just like film has its own frailties and artifacts. Our restoration of Alfred Hitchcock's *Notorious* [1946] drew on four picture sources and required photochemical and digital work. The Museum of Modern Art had eight of 10 reels of the original negative, which was very worn and required substantial repairs. MoMA also had a nitrate fine-grain master, and the British Film Institute had a second nitrate fine-grain that was cleaner with less printed-in damage. From these two masters, damaged sections of the original were replaced, along with the entirety of reels 4B and 5B. The original main title, which was altered by Selznick in 1954 after he bought the film from RKO, existed only on the tattered copyright print on deposit at the Library of Congress. Because of its condition, we used digital technology to scan,

render and record back to film the entire main title. Apart from these 90 seconds, all other picture work was accomplished with conventional photochemical techniques.

Ainsworth: When we do a restoration, we pursue photochemical methods as much as possible and tend to use digital tools to fix physical damage. I think people tend to forget how good some of the photochemical tools can be; if you use the right lab and pay attention, you can

"I like to remain in the photochemical world as much as possible, and these small labs come up with some amazing things."

**— Schawn Belston,
20th Century Fox**

accomplish a lot. In my experience, filmmakers are happy to have digital tools as an option, but I'm not a proponent of using them as a panacea for everything. A few years ago we worked with Haskell Wexler [ASC] on restoring *In the Heat of the Night* [1967]. A damaged original negative had been used for release printing, and then they'd made separation masters that printed in all of the physical damage. We decided to make a new dupe negative from the separation masters. We first identified the sections that needed digital help; then we digitally restored those scenes, and then we put out a new negative and cut that into the dupe negative. We matched it as well as we possibly could.

O'Neil: If we find that a negative is damaged on a show that's 30 years old or younger, we'll use digital tools to fix it. One of the things that's key is that once you digitally restore a piece of film, you don't remove the damaged piece — you leave it in

there and make a B roll for printing. That's because you might be able to do something better with that damaged original in five years. We're doing some digital restoration on *To Kill A Mockingbird* [1962] over at Cinesite right now. We actually did major photochemical work on that title a number of years ago, and although we did the best we could, we weren't happy with the result. We went back and addressed the film again, and our only tools for good results were digital. We've been working on it for a long time, and I'm not sure when we'll be finished. Unfortunately, the more popular a title was back then, the more the elements were used, and the worse condition they're in today.

Belston: I should really be waving the flag for this digital business because I'm a young guy, but I don't see the technology as being there yet. You can always see a digital shot from a mile away. We reserve that technology for an image that is just unwatchably bad and must be enhanced. When we restored *All About Eve* [1950], we left all of the imperfections in it because we decided they weren't as noticeable as it would've been to cut to a digital fix. I like to remain in the photochemical world as much as possible, and these small labs come up with some amazing things to compensate for problems like color fading and misregistration.

May: We haven't done a lot of digital restoration work. It's horribly expensive. When you're working out a price, you don't talk by the foot, you talk by the frame, and a frame of digital probably costs more than a foot of film. The first time we used digital tools was when we worked on *The Wizard of Oz* [1939] after Turner and Time Warner merged. We had to do some digital work on the monochrome sections of the film — the first reel and the final two minutes — because we had no original negative for those sections. We only had a

time was very desaturated. The color was in the film's negative and is reproducible beautifully today, but it was not reproducible well back then. Up until about 1944, Technicolor's printing process started with a low-contrast black-and-white print to build density, and then the color was put on top of that. The presence of the black-and-white actually put a gray layer into the print. If you compared a Technicolor print made from those three-strip negatives today to an original print, you'd see a tremendous difference. Even the prints from the 1954 reissue of that picture, which Selznick supervised, don't look like the '39 prints because that gray layer was no longer there. I feel that what we can bring back on that film today is what the filmmakers would have wanted, had it been possible at that time.

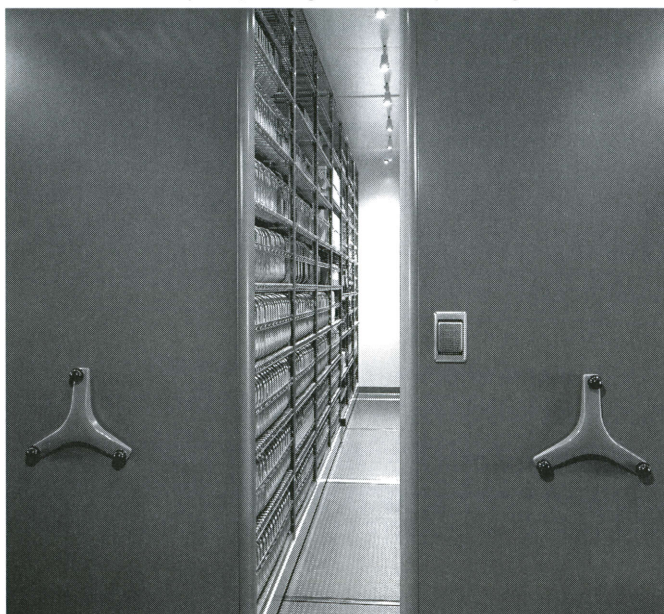
MacQueen: I have to stress the importance of getting back to original elements, and if they don't exist, to the highest-generation copies one can find. With older films, it's important to learn the history of the film and to compare as many examples as possible. For example, *Portrait of Jennie* [1948] has a brief Technicolor sequence at the end, and is known to have used a green tint for the climactic tidal-wave sequence. We accessed Selznick's original nitrate print, in addition to a nitrate print ABC had deposited at the Museum of Modern Art. These showed us that the green tint was only part of the story, and that following the storm, the final sequence occurred in sepia, not black-and-white, before arriving at the famous color reveal of the portrait. The final credits were also in sepia. For the first time in 53 years, these details are now correct.

DIGITAL TECHNOLOGY

Murphy: We've done some total magic by deploying some digital restoration tools; we use them to

HOLLYWOOD VAULTS

Preservation-quality storage of film, tape & digital media



24 hour access to private, individual Swiss-made vaults
High security, Climate controlled, Halon fire protection



800.569.5336 www.hollywoodvaults.com

vancouver film school

creative. disciplined. focused.

film

2D animation

3D animation

new media

acting

writing

make-up

sound design

Call 1-800-661-4101



This is a 70mm film frame from the 1995 restoration of Walt Disney's *Sleeping Beauty* (1959), which was restored from a successive-exposure Technirama camera negative by YCM Laboratories and Pacific Title.

dupe negative, and some dirt had been printed into it over the years. We used digital tools to clean that up.

Crisp: Digital is the buzzword of the moment in terms of film restoration. There are some real benefits to be gained through the use of newer digital technologies, and I've been quick to embrace the possibilities they offer. We've actually used digital for restoration on almost 20 films, some for just a single shot, some for the entire film. But we need to be careful how we use these technologies so that we can gain the most from them. Digital artifacting and unintentional loss of picture or audio information is a constant problem to guard against right now. The approach everyone should be taking is to restore films photochemically and use digital technology only if there's no other way to achieve the desired result. In addition to the cost and time factors, there are no real standards for digital work. Rather, each new project is almost a little research-and-development project of its own.

DISCOVERIES

Allen: One of the hazards of the Republic library is that although some of the nitrate was copied onto acetate over the years, that doesn't

necessarily mean much. I looked at two elements of a film a few weeks ago, one a nitrate fine-grain made in the late Forties, when the film was new, and the other an acetate fine-grain. Guess which looks better? The nitrate is gorgeous — the tonalities are astonishing, there's no deterioration, and the blacks are perfectly steady. The acetate looks pretty good, but it wasn't properly processed, so there's density breathing in the darker areas.

May: We checked one title earlier this year, and the magenta master had apparently been cut and used for making TV-version elements, whereas the cyan and yellow masters had been left alone. When we recombined them, a reel would start off okay, but suddenly all of the red elements, which included flesh tones, were off doing their own thing. Nothing matched. So we went back to the original negative and made new seps on the entire movie. Right now we're going back and checking some of the seps made in the Fifties; we're testing a 300-foot section of each reel, recombining the seps, and making a negative and a print to ensure that the seps are registered properly. At the time they were made, they were never checked back [to a negative and print].

Crisp: We're working on a

restoration of the [1972] musical *1776*. It was originally three hours long, but Jack Warner, the producer, cut 40 minutes out of it before it was released. The director, Peter Hunt, is working with us on re-editing the film and getting it back as close as possible to the original version. Everyone was under the impression Warner had destroyed what he'd cut out, probably because he'd said so. But an earlier work print of the long version was released on home video some years ago, and when the title came up as a potential DVD, I knew people would be disappointed if the DVD weren't the long version. At the same time, very little of the work print was presentable, so I decided to see whether the negative of the missing portion was truly gone. We literally spent six months plowing through can after can after can, finding a little trim here and a little trim there, until we finally found all of the missing footage. Peter Hunt was amazed.

It's going to be very difficult to restore, though, because every time you make a cut you lose frames, and in this case they not only cut whole scenes and a whole production number, but they also cut right in the middle of a shot — for instance, you might have a dialogue scene of a character walking down a sidewalk,

The State of the Art

but in the cut version you might only see the second half of the actual shot. Not only was it cut in the middle of the shot, which means there is now a splice that wasn't there before, but frames are gone, so there's going to be a jump cut there if you do put those sections together. On top of that, the original negative and the

"The ultimate success of any color system rests with how accurately it reproduces neutral colors."

**—Scott MacQueen,
Walt Disney Co.**

deleted negative were stored separately for 30 years, and because their color faded at different rates they no longer match. It's going to be interesting to see how this turns out.

Belston: A couple of years ago, Fox closed out of a storage facility in New Jersey where all of its nitrate original negatives had been kept. The studio began transferring those titles to safety film in the Seventies, and a lot of the nitrate material was [subsequently] destroyed. I'd heard through the grapevine, however, that there might still be some feature material there. It turned out there were a dozen vaults full of nitrate material that had been 'destroyed,' according to the paper record. We found the original negative of *Night and the City* [1950], even though we have a note saying it was destroyed in 1978. Apparently the facility had had a bad fire, and the nitrate had been tucked into vaults at the back of the property and forgotten. It's potentially an amazing find. It's over at the Academy Archive now, and we're going through it and trying to make sense of what we have. Of course, if we find an original negative on something we've just spent six months restoring, I'll hang myself. [Laughs.]

MacQueen: It's important to check color separation masters by creating an internegative from them. Those in the trade who use older separation masters to restore films have seen it all: dirt, mis-lights, stock defects, register problems, balance problems, and missing and incorrect records. Even with today's awareness, flaws can occur that aren't readily evident without a full recombination [of separation masters]. Our new masters of *Duel in the Sun* [1946] and *Gone to Earth* [1950], for example, both had subtle but potentially tragic problems with stock defects and liquid-gate artifacts that would not have been apparent had we not been recombining the masters. It's the most sensible form of quality control, and much less costly than a later digital fix. There is no valid justification, either technical or financial, for avoiding this step.

(Ed. Note: Although Disney recombines separation masters on many restoration projects, it is the only studio represented in this interview that does not recombine them on new titles, either in their entirety or in test sections, before putting the elements into storage.)

OBSERVATIONS

Murphy: There are still some people who think we should be mastering to DVD, which blows me away. DVD is a compressed format; it holds just a sliver of the original image. There's no logical reason to master to something that only captures a sliver of the whole.

MacQueen: We've had the opportunity to consult original dye-transfer prints for many of our restorations of three-strip Technicolor titles. We borrowed the Library of Congress copyright prints of *Song of the South* [1947] and *Duel in the Sun*, as well as David Selznick's personal prints of *The Garden of Allah* [1936], *Nothing Sacred* [1937] and *The Adventures of*

Tom Sawyer [1938]. In each case, we didn't seek to match the color of the nitrate prints because we quickly saw that our new prints could achieve much more accurate color — not subjective accuracy, but photographic accuracy, measured by the fidelity of colors like black, white and gray.

The ultimate success of any color system rests with how accurately it reproduces neutral colors. Selznick's *Tom Sawyer*, for example, was a 1952 dye-transfer print that appears to have been printed from the original 1938 matrices. Overall it has a sepia appearance, with amber whites and magenta-colored shadows, period. But the ends of the reels have much more neutral color — the matrices had been damaged, and the replacement sections made in 1952 reflect the technical 'look' of that time. This points up another condition with historical prints: quite often, no two look alike!

Belston: How to preserve newer TV shows that are all finished on tape is a good question with no good solution. It's a particular problem on shows like *The X-Files*, which has a large number of not only optical effects but also visual effects that never existed on film — doing a film finish on TV effects shots is just too expensive. We have all the negatives on the newer shows in storage, but they're not even broken down. The fact is, conforming the negative on a TV show is prohibitively expensive compared to a telecine session. We've done tests with up-rezzing some video masters to hi-def, but frankly, we've had very limited success. How to preserve these shows is probably the next serious question facing anyone with a TV library.

Ainsworth: When we acquire rights and titles, we try to ensure that preservation is built into the acquisition somewhere. For example, it's become very desirable for a low-budget production to not record sound on 35mm magnetic stock;

instead they work in magneto optical disks or D88. Our delivery schedule calls for 35mm mag, and they always question that. Our response is always the same: digital is not archival. You have to archive and preserve a product in the medium in which it's produced.

Crisp: Some have said that the advent of DVD is the death knell for preservation, but it's absolutely the opposite. The growing DVD market has increased all the studios' budgets for preservation and restoration, specifically because the image and audio quality is so much higher than it ever has been. We have to supply the best materials we can — it's not acceptable to just pull out an old IP and put it out on DVD.

O'Neil: A couple of years ago I took [the restored] *Touch of Evil* [1958] to Cannes, and I remember walking through the International Pavilion, seeing all those countries and the movies they were selling, and thinking, 'I'll bet there are at least 80 countries represented here, and I'll bet they haven't made separation masters on any of these films.' The truth is, a lot of smaller companies can't afford to take care of their material. Most movies are not Hollywood movies, and those producers are lucky if they can make one IP or IN and a hundred prints. After that, they never look back.

THE FUTURE

Kelly: The local labs are very busy right now, but I don't know how busy they'll be forever. There's a finite amount of material, and we're all going through our libraries so fast that it's kind of scary.

May: People say everything about film will go digital. Well, the future is always going to happen, but it's not going to be tomorrow. There's still a hundred years of film in circulation, whether it's via DVD, via satellite or via a little spot waving a wand at you sometime in the future.



Casablanca originated on film, and if you're going to do any kind of work on it, you need the film.

Ainsworth: Overall, I'm optimistic about the future of film preservation because the large companies that own a majority of the films 'get it.' You hear CEOs talking about it now. When people who run preservation departments and archives propose their budgets, they're getting a much more sympathetic ear than they've had in the past. What I'm concerned about are the filmmakers who aren't part of large companies, who don't know about the importance of preservation or don't have the money to do it.

O'Neil: I don't think we'll ever be caught up, because as time goes by we always find ways to do this work better.

Murphy: There's been such leap in technological growth in the last five years, it's easy for us to say that even two or three years from now, it will be so much better than it is today.

Crisp: Restoring our library is certainly a multi-year process because there's a lot of work to be done. There are times when we have to make compromises on films we're restoring today because of a lack of good ancillary elements or because certain

newer digital techniques have not yet been perfected, and we hope that because we retain everything, we can do it better 15 years from now. There is immense satisfaction when you succeed, and real heartbreak when you can't do something as well as you'd like because you just don't have the material.

Belston: In 20 years, maybe there will be some be-all, end-all digital format that we can transfer everything to that's a much quicker process than cutting film, making B rolls and trying to Frankenstein together a classic film. If that happens, people will say, 'Boy, Schawn Belston and Grover Crisp and Bob O'Neil and Dick May were really slow, they only managed to do a couple hundred films.' But historically, the studios didn't do *anything*. I feel very optimistic. We managed to recreate *The Power and The Glory* [1933], which was shot by James Wong Howe [ASC] and famously written about as a 'lost' film, from the elements we had, the elements the UCLA Film Archive had, and the material we got from [director] Preston Sturges, and while we were working on it I kept thinking, 'Nobody would've done this 20 years ago.' When you see something like that, how can you not be optimistic? ■

The restoration of *To Kill a Mockingbird* (1962), which earned Russell Harlan, ASC an Oscar nomination for black-and-white cinematography, has been an ongoing project at Universal. The studio did major photochemical work on the title a few years ago but was dissatisfied with the results. Cinesite is now restoring the film digitally.

Second Chances

Cinematographers are applying new tools and seasoned perspectives to maintain — and sometimes enhance — the integrity of their older films.

by Rachael K. Bosley

As studios and production companies dig into their libraries and prepare to give older titles new lives, many are inviting cinematographers to retime films they shot 20 or 30 years ago. Although a handful of ASC members report that their involvement in new transfers of their films is mandated in their contracts, the invitations are more often extended as a courtesy. “Only cinematographers at the top of their game have the muscle to ask for that in their contracts,” says ASC President Victor J. Kemper. “The younger guys are afraid to, and I understand why — they’re afraid they might not get the job if they ask for too many things.”

Laszlo Kovacs, ASC, who has been involved in several restorations and numerous transfers of his films, says the cinematographer’s participation in such processes is vital. “The final look of a picture is the result of many, many discussions, and the result of all that collaboration is told through the cinematographer’s eye. When a film goes to a different format, that look has to be maintained. If you change the color and contrast of scenes, you might as well be cutting scenes from the movie. The look is part of the art, part of the whole.”

Sometimes the cinematogra-

pher’s contribution during new timing sessions is fairly straightforward. When Isidore Mankofsky, ASC was asked by Universal Studios to retime *Somewhere in Time* (1980) for a 20th anniversary re-release, he made about a dozen suggestions to the timer at YCM Laboratories. “Cinematographers are always trying to differentiate themselves, and my idea for doing that on that film was to use Kodak stock for contemporary scenes and Fuji stock for the period scenes,” Mankofsky explains. “The color jump between the stocks was too extreme [in the new print], so I worked with the timer to iron out those differences. They did a pretty good job on the first print, but the final effort was beautiful — much better looking than what was released originally. It was nice that I was able to inject what I knew.”

When Paramount Pictures decided to digitally remaster *Grease* (1978) for its 20th anniversary, Garrett J. Smith, the studio’s vice president of digital mastering operations, called Bill Butler, ASC, who actually began to design the look of the musical before director Randal Kleiser came onboard. “A lot of the film was in good shape and could be timed easily,” Butler recalls. “Some of it had to be retimed to make one

scene better match the next in terms of color. Fortunately, I came out of television, so I’m very comfortable in a telecine suite. You can do fine-tuning with contrast and color there that you just can’t do in the lab.”

Allen Daviau, ASC says that in addition to the increased level of control in telecine, the greater dynamic range of high-definition broadcast technology is giving cinematographers unprecedented options. He recently supervised hi-def transfers of *The Color Purple* (1985) and *Empire of the Sun* (1987) for Warner Bros. at Modern Video Film, where he worked with colorist Gregg Garvin. “I’d been looking at a lot of hi-def TV to see what the format would take,” Daviau recalls. “Our reference points were the original NTSC and PAL transfers done by Lou Levinson, as well as our reference print. We weren’t at all afraid to go a little darker and push the contrast a bit more; we found we could be as daring as we were on the release print.”

While most cinematographers greet the improved technology with enthusiasm, some acknowledge that it can lead to conflicts with overzealous digital timers, or colorists. “Colorists sometimes do too much simply because they can,” Kemper observes. “It’s fun on one level to sit



Laszlo Kovacs, ASC gets a freewheeling Dennis Hopper in his sights while shooting *Easy Rider* (1969). Thirty years later, the cinematographer helped Sony Pictures restore the film, and he is thrilled with the results. "Columbia never wanted to release it, and no one bothered to take care of it," Kovacs recalls. "It was a mess. Thanks to the restoration, the tragic story has a very happy ending."

there and confront all of the possibilities of this new technology, but with more possibilities, you have to make much finer choices."

Kemper recently worked on ... *And Justice for All* (1979) in a digital suite. "I was paired with a very talented colorist who had his own ideas about what looked good, and there was a bit of friction during our first session. I wasn't trying to take away from his expertise; I was just trying to protect the look we originally intended.

"I think [the younger timers have] that television eye, which is trained to see a certain brightness on the screen," he adds. "When a cinematographer who shot something 30 years ago sits down with someone like that today, there's bound to be some disagreement."

For some cameramen, the passage of time and the evolution of technology breed something else

as well: second thoughts. As Paramount's Smith observes, "Filmmakers are constantly rehashing their work, and that creative churn continues long after a film is put to bed."

Kovacs, for one, acknowledges that he made a few new tweaks to *Shampoo* in the telecine. "Sometimes a cinematographer makes a decision based on what's in vogue, and heavy diffusion was in vogue 20 years ago. When I took another look at *Shampoo*, I thought it looked over-diffused, and I had a chance to correct that in telecine and raise the contrast level a bit."

Gerald Feil, ASC says he embraced the opportunity to make more radical corrections when Criterion invited him to remaster *Lord of the Flies* (1963) for DVD in 1999. A non-union production that was shot on location in Puerto Rico for \$250,000, *Lord of the Flies* had

only two crew members with film experience: Feil, who ultimately served as co-cinematographer (with Tom Hollyman), co-editor and associate producer, and camera assistant George Berios. "[Director] Peter Brook's theory was that if we shot the film inexpensively and as an experiment, the story would prevail," Feil recalls.

Feil helped supervise an initial digital master of the film for a Criterion laserdisc in the early 1990s, but when the company decided to issue a DVD in 1999, everyone involved agreed that the old D2 master could be improved upon. "We knew that the blacks in particular wouldn't look as good [on DVD], and black plays an important role in that picture," Feil says. "Even more compelling was the exciting new possibility of correcting the gamma and contrast, which had been so difficult to control given our low

budget and the bright, sunny locations.

"We made so many compromises while we were shooting the film — we couldn't shine too much light in the actors' eyes because they were kids, we couldn't wait for a cloud to pass. I remember thinking that I would've given anything for one Brute Arc and one really big silk! The equipment at our post house, Nice Shoes [in New York], was capable of generating the equivalent of a traveling matte, so I could apply variable ND to the sky as needed, and make a separate matte that could put light in the actor's eyes or lighten the face a stop or two to contrast with the sky or sand."

Feil compares his success in the digital suite to the experience of making a good feature film. "What really counted was the collaborative and respectful relationship among us all: colorist Chris Ryan, technical supervisor Lee Kline and publisher Peter Becker. We cinematographers mustn't believe we know it all. We can trust our eye, but we have to trust the people we work with, too, and they need to trust us. There are some things our eyes won't tell us."

One relationship that represents that kind of trust is the collaboration between Kovacs and Grover Crisp, vice president of asset protection at Sony Pictures. When Sony decided to restore *Easy Rider* (1969) in honor of its 30th anniversary, Crisp called Kovacs. The cinematographer was closely involved in the painstaking restoration, and he has since worked with Crisp on several other Columbia Pictures titles. "The original negative on *Easy Rider* had gone through different ownership and different storage environments and had sometimes been treated very carelessly," Kovacs says. "It had scratches and water damage, and about 20 minutes of it was missing altogether and had to be duped from work prints. It was a mess."

"Grover is very meticulous,

and he and Cinetech were working on it piece by piece. Every time they had a one- or two-minute section of it ready, they'd bring me in to sit with the timer. The work involved was phenomenal. Grover really resurrected that film; without him, there would be no *Easy Rider* today." Kovacs subsequently worked with Crisp on *Five Easy Pieces* (1970), *The King of Marvin Gardens* (1972) and *Shampoo* (1975), among other titles.

"The final look of a picture is the result of many, many discussions, and the result of all that collaboration is told through the cinematographer's eye. The look is part of the art, part of the whole."

— Laszlo Kovacs, ASC

Crisp has also worked with ASC members Kemper, Conrad Hall, Owen Roizman, John Bailey, Fred Koenekamp, Vilmos Zsigmond and the late John Alonzo on some of their films. "We make an all-out effort to get the creative people involved in our projects," Crisp says. "The oldest title on which we've done this so far was *A Matter of Life and Death* [1946], which we showed to cinematographer Jack Cardiff [BSC]."

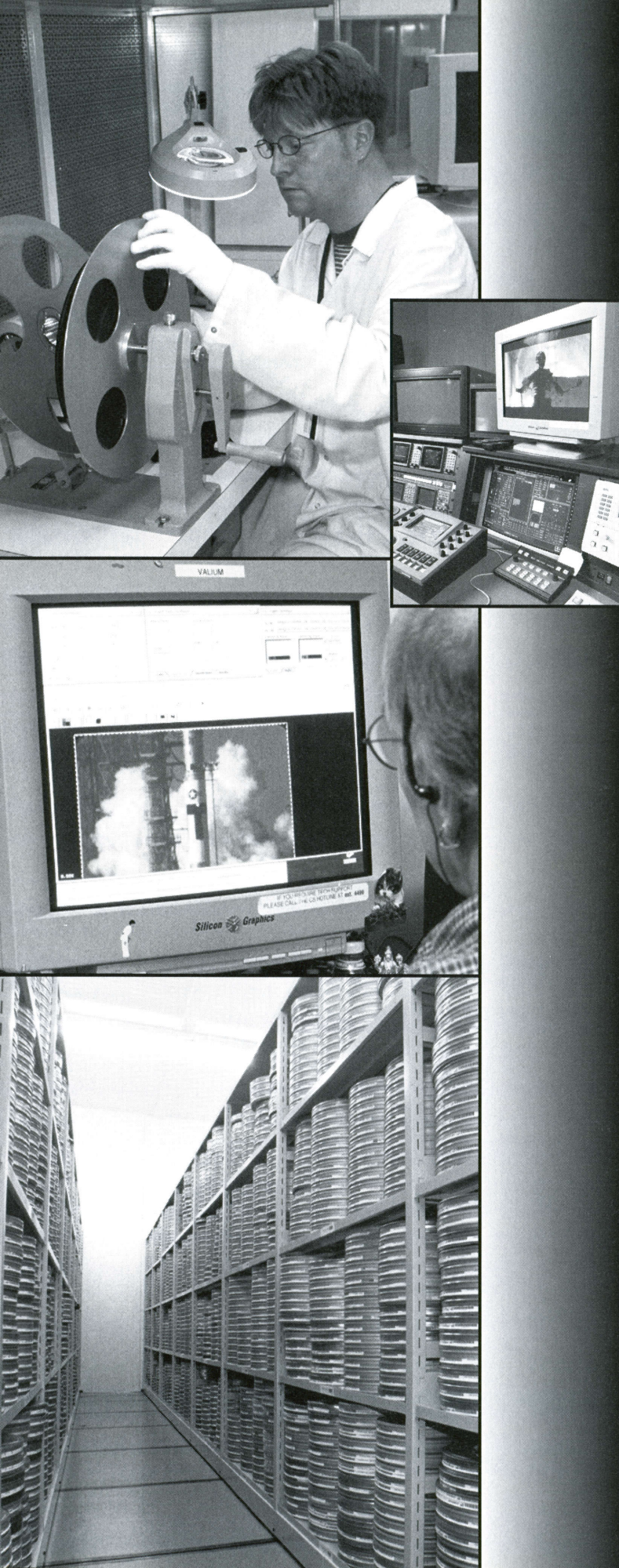
Zsigmond, whose résumé also includes a number of Columbia Pictures titles, worked with Crisp on *Obsession* (1976), *Close Encounters of the Third Kind* (1977) and *Real Genius* (1985). "Grover calls me all the time," he notes with obvious pleasure. "It saves the studios and labs a lot of time and effort to include cinematographers [in the

process] as early as possible. Sometimes we have to do two or three timing sessions on one picture."

He adds that the condition of the elements on his older films has varied significantly. "*Close Encounters* had an amazingly good negative, but *Obsession* was quite faded. The negative on *McCabe & Mrs. Miller*, a Warner Bros. title, was in very good condition, considering that we'd practically destroyed it ourselves — we'd flashed it and pushed it because we wanted that very old, antique look."

In some cases, studios have restored titles because a cinematographer has needed a top-quality print for a special event. Such was the case with *All That Jazz* (1979), which was recently restored by 20th Century Fox, the Academy Film Archive and Sony Pictures. "Giuseppe Rotunno [ASC, AIC] was being honored at a festival and needed a good print of that film," recalls Schawn Belston, director of film preservation at Fox. "The film's negative was badly worn, and all of the opticals were on CRI stock and had faded to the point of being almost unusable. We all worked on it very hard for about 18 months, but Rotunno's contributions to the restoration were the most important to the process. I've always believed in the 'cinematographer's eye,' but to witness it firsthand was truly incredible. He remembered every setup, every shot and every nuance he was trying to achieve when he'd originally timed the film in 1979."

"I wish more cinematographers would call me," adds Belston, who also recently worked with Conrad Hall, ASC on *Butch Cassidy and the Sundance Kid* (1969). "It would make things much easier if the people responsible for the legacy of these movies were more vocal about being involved in the preservation and, where need be, the restoration of their work." ■



Don't let your films fade away

Preservation

At the state-of-the-art PRO-TEK media preservation vaults in Burbank, we offer filmmakers -- from the largest studios to the smallest independents -- the most efficient and cost effective way to preserve and protect their films under carefully controlled environmental conditions for just pennies a month.

The vaults are built to ANSI standards, with storage at 45 degrees F and 25% relative humidity. The high-security facility is monitored 24 hours a day, seven days a week. In addition, PRO-TEK offers film inspection and repair services for both vault and non-vault customers.

Restoration

Cinesite, an industry leader in digital film restoration, utilizes artistry and the latest technology to restore damaged film for future generations. Complemented by Kodak's vast knowledge of color science, Cinesite's proprietary tools allow Restoration Specialists to digitally repair and restore films that a few years ago would have been considered unrepairable.

Restoration services include scene touch-up, scratch removal, tear repair, dirt/dust removal, grain adjustment, color correction, dye-fade correction, frame re-registration and stabilization.



3110 N. San Fernando Blvd.
Burbank, CA. 91504
P 323-468-4450
F 323-468-4486

1017 N. Las Palmas
Hollywood, CA 90038
P 323-468-4400
F 323-468-2180

The Learning Curve

Laboratories and storage facilities continue to develop better ways to preserve and restore motion pictures.

by David Heuring

I ncreased interest in film preservation in Hollywood has led to better storage and handling techniques, as well as more finely tuned lab work. Technological advances include new film stocks and improved optical processes. Most laboratories involved in preservation and/or restoration offer color timing and correction, wet and dry contact and optical printing and black-and-white negative and positive film processing. Some also offer film prep and repair, and hand and machine cleaning.

The vast majority of film

preservation and restoration today — more than 95 percent, by most estimates — is achieved with photochemical techniques. When such techniques fall short, digital processes are utilized. A handful of labs offer digital-restoration services; new tools, including color correction from Pandora and DaVinci, are making digital restoration techniques less time-consuming and more affordable.

The film-preservation industry is built around separation masters. Separations consist of three black-and-white copies of the nega-

tive — one sensitized for yellow, one for magenta and one for cyan. Black-and-white film on polyester base made for this purpose has no known shrinkage and no dye fade compared to color film, especially when stored under the proper conditions. When the three separations are properly registered, they can be recombined to produce a duplicate negative that is a faithful reproduction of the original. The cost for creating a set of separation masters ranges from \$30,000-\$35,000; the cost for making a duplicate negative from a set of separations is about \$25,000.

Rick Utley has been working with film for more than three decades, initially on the lab side at MGM's Metrocolor and Technicolor. He oversees the operation of the **Pro-Tek Media Preservation Vault**, which recently opened a new 23,000-square-foot facility in Burbank. The facility encompasses three medium-term storage vaults where film is maintained at 45° Fahrenheit and 25-percent relative humidity. The vaults can store as many as 600,000 cans of film.

Utley explains that the low humidity and low temperature deter shrinkage of the acetate-base material and significantly slow dye fade in color film. "There's been a significant change in storage environments in



Photos courtesy of Cinesite and Universal Studios.

the past 15 years," he says, "Fifteen years ago, every studio had a preservation and restoration strategy totally different from today's. All of them were storing film in ambient or 'cooler' temperatures. Separation masters were made to satisfy an insurance policy on the original camera negative, and interpositives were used and abused.

"Today, almost all of the studios either have built vaults or are using facilities like ours to store their 'family jewels,' and boutique labs have sprung up to handle the separation and restoration work. All of the improvements came about because it became clear that the libraries could generate revenue. Market dollars drive preservation in the studios."

David Wexler opened **Hollywood Vaults** around the time that Ted Turner acquired the MGM library in the mid-1980s. He designed and built the facility as a sanctuary for motion-picture negative and intermediate elements, photographic prints, audio and videotape and digital media. The facility is earthquake- and vandal-proof and equipped with a Halon fire-suppression system. In addition to studios, the vault serves independent filmmakers and content owners who have discovered they can safeguard their legacies for relatively small costs.

"The only way to preserve these media is to keep them cold and dry," says Wexler. "That's what keeps colors from fading and base material from shrinking. Eventually somebody will invent an economical and stable media that lasts for thousands of years at room temperature, but so far that doesn't exist."

Wexler says that the average content owner is getting savvier about archiving. "Quite often, titles don't make money in their initial release, but there are new ancillary markets down the road. In the early days you made a picture that showed in a theater, and it either made



money or didn't. Now, films are seen as financial and cultural assets."

YCM Laboratories was the first facility in the Los Angeles area to devote itself to preservation and restoration work. Since 1981, it has been strictly a 35mm photochemical facility, specializing in combining various elements on a title and accurately duplicating the "look" in both black-and-white and color, thereby truly restoring the films, according to president Richard Dayton. The lab has special equipment for handling unusual formats, including 2-perf, 8-perf, successive exposure elements, and obsolete soundtrack negatives.

YCM, which is located in Burbank, takes a painstaking, hands-on approach to the creation of separation masters. "For almost 15 years, we've used a liquid-gate registration contact-printing process to print separation masters, rather than a dry or optical liquid-gate process," notes Dayton. The Academy of Motion Picture Arts & Sciences recognized YCM's achievement in this area with a special plaque in 1992.

According to YCM vice president Don Hagans, separation masters should always be recombined back to internegative and then a check print, which is screened side by side with an approved answer

print. Hagans says attention to detail is vital. "We evaluate color balance and sharpness, and we check for any defects or artifacts in either the separation master or the internegative stage," he says. "We build into the separation masters the final timing lights, as well as any effects, such as fades and dissolves. The idea is to preserve the integrity of the color balance in the separation masters that the filmmakers originally intended."

Hagans says that double-checking the finished product is crucial. "Separation masters are the most stable archival element to date, but if you don't check them back you don't really know what you're putting away in the vault. You can lose the record of what the film really looked like, and you have no way of evaluating the masters for defects." He adds that many of the unchecked masters stored in vaults might have some type of problem.

YCM's recent restoration projects have included *Citizen Kane*, which was restored from a fine-grain master recently discovered in Europe, as well as *Amadeus*, five titles for *The Stanley Kubrick Collection* DVD boxed set, *Close Encounters of the Third Kind* and *The Bridge on the River Kwai*. YCM also made new

Working from a badly damaged fine-grain master, technicians at Cinesite are digitally restoring *To Kill a Mockingbird*. The opposite page shows a "before" frame, and this page shows an "after" frame. "Unfortunately, the more popular a title was back then, the more its elements were used, and the worse condition those elements are in today," notes Universal's Bob O'Neil.

The Learning Curve

separations for the *Star Wars Special Edition*, adjusting gammas to compensate for fading so that the insertion of new digital effects would be seamless; the lab integrated the new material through color timing and balancing.

Another lab devoted to preservation and restoration work is **Cinetech**, which was formed by Sean Coughlin about a dozen years ago. The facility moved from Burbank to a state-of-the-art, 40,000-square-foot lab in Valencia two years ago. Cinetech does traditional optical restoration work, and also specializes in producing black-and-white separations.

Coughlin says that all of the major studios now routinely make separation masters for feature releases, and Cinetech has also been producing separation masters for older titles for a major independent producer. Among the recent restorations in which the lab has participated are *The Wizard of Oz*, *Easy Rider* and *In the Heat of the Night*.

Cinetech recently installed five new film processors, including the largest black-and-white negative machine in North America, geared specifically toward preservation, restoration and asset protection. Inspection is done with two specialized telecines that use proprietary software.

"We pride ourselves on having the best human resources as well," says Coughlin. "Our people love film. Handling delicate materials is an art in itself, and returning them to their original glory requires great skill and understanding of how these processes work."

Cinetech has also developed a photochemical production-line process for restoring color to film from faded original color negatives without using other elements. The Restored Color Image (RCI) process is a modified version of a process originally developed by Peter Kuran of VCE, Inc., which involved very

complicated and time-consuming optical-printing steps. Cinetech streamlined the process, making modifications to printing and processing equipment, Coughlin says. The RCI process now utilizes traditional continuous contact printing methods and off-the-shelf film stocks. "The resulting RCI prints and new RCI master positives from the original negative have exceptional color restoration," he says. "These

"Separation masters are the most stable archival element to date, but if you don't check them back by recombining them, you don't really know what you're putting away in the vault."

**— Don Hagans,
YCM Laboratories**

images rival the originals for image sharpness and fine-grain quality."

One of the newest full-service labs specializing in photochemical film preservation and restoration is the aptly named **Triage Motion Picture Services**, which opened in Los Angeles in 1998. "My opinion has always been that the work I do is a different business than the work a normal lab does," says co-founder Paul Rutan Jr. "It's a very difficult business to be in; it's labor-intensive and time-consuming. Sometimes we have to work on a project for more than a year to do it properly."

Rutan began working with film in the mid-1970s when his father, a former Technicolor executive, opened a company that transferred obsolete formats to 16mm and 35mm film for broadcast on TV. Triage co-founder Tony Munroe has 11 years of experience in the field.

Triage's recent restorations

include *All That Jazz*, *The Power and The Glory*, *A Hard Day's Night*, *Sweet Smell of Success* and Fritz Lang's *The Return of Frank James*. The lab also recently completed a project for the Library of Congress: the restoration of 18 French black-and-white short films from the early 20th century that feature hand-painted color on parts of each frame. "Those were falling apart in our hands when we got them," Rutan notes.

Both Munroe and Rutan stress that the varying conditions of film elements make it essential to approach each project with a fresh eye. "You can't simply say, 'This show is going to be this way,'" Rutan says. "You're dealing with an unstable medium, made all over the world by many facilities in many different ways, using many so-called proprietary techniques that are now lost. You have to keep learning. Until you open the can and get your hands dirty, you can't know what the project will be like."

"We treat each project as a separate entity, more in the way of an optical house than a lab," adds Munroe. "In a lab, everything is geared toward streamlining the process by reducing it to a series of tasks that can be performed in a simple manner. In an optical house, each job is handled on a per-shot basis, and each item is handled as a singular project. There's no set way to 'do' a montage that blends six or 10 elements together other than to try it, see how it works onscreen, revise your lineup and do it again."

In addition to doing both analog and digital restoration and preservation, the New York facility **Cineric** handles design, effects, opticals or titling on two dozen feature films a year. "Ninety-nine percent of film restoration and preservation today is done in the analog film format," says Balazs Nyari, whose company has been in business since 1983. "Everybody I know at the studios understands that currently,



YCM

*We want to thank all of our clients for
joining us in our celebration of 20 years
in Film Preservation and Restoration*

YCM Laboratories

5 Sunset Way

Henderson, Nevada 89014

Tel. (702) 436-4401

Fax (702) 436-4406

3140 Clybourn Avenue

Burbank, California 91505

Tel. (818) 843-5300

Fax (818) 842-7006

The Learning Curve

the most viable way to protect their full-length feature assets for the future is to use film techniques. We do use digital if there's a scene or two holding up a picture — those rips and tears have to be fixed. But these methods are rarely applied to feature-length projects. Someday we'll have electronic imaging and storage with as much dynamic range and depth and resolution as film, and at a reasonable cost, but it's not here yet. Everyone who's working to perfect the saving and archiving of film is doing the right thing."

Cineric recently worked on *Funny Girl*, which was theatrically reissued in early September. "It was basically an analog film restoration," Nyari says of the project. "We rewashed, mended, reconstructed and replaced a tremendous number of scenes using separation masters. The contrast and color had to be matched to the original."

For some time now, Cineric has been perfecting its photochemical color-restoration process, which produces a printable negative from a negative exhibiting serious levels of yellow-dye fading. The lab has applied the process to *Gunman's Walk*; *Bell, Book and Candle*; *The Seventh Voyage of Sinbad*; and *My Sister Eileen*. Computers help Cineric's technicians determine the proper levels for the process, but the actual work is done optically. Nyari notes that Cineric has been applying computer technology to the analog restoration and preservation of films for more than 20 years.

Cineric also collaborated on the invention of the full-immersion adjustable liquid gate, a special optical-printing gate that allows film, no matter how shrunken, to be fully pin-registered.

Pacific Title was one of the first facilities equipped for both state-of-the-art optical and digital restoration work. The company has contributed to such high-profile restoration projects as *Star Wars*, *The*

Wizard of Oz, *A Touch of Evil* and *The Exorcist*. When Pacific Title president Phil Feiner discovered some of the original black-and-white negative of *Oz* had been destroyed in a fire, he tracked down fine-grain printing masters that had been manufactured by MGM's defunct lab, Metrocolor. He found that there were serious artifacts caused by wear and tear (cell and emulsion scratches).

"They were made 'contact dry gate' and used as printing masters before there were wet-gate printers," he explains. Feiner made a contact

"Returning delicate materials to their original glory requires great skill and understanding of how these processes work."

**— Sean Coughlin,
Cinetech**

wet gate copy onto Eastman EXR 5244 intermediate film with an Estar base, which eliminated some scratches and other artifacts. The dupe was scanned into digital format, and the remaining artifacts were painstakingly "painted" out. Those scenes were laser-recorded back onto film.

Pacific Title has been busy working on several 65mm titles like *Around the World in 80 Days*, *2001: A Space Odyssey* and *Cheyenne Autumn*. For *2001*, CFI will create an answer print from the original negative and send the printer-light information to Pacific Title, and Pacific Title will use the lights to make a 65mm liquid-gate, additive-light answer print to 35mm interpositive for scanning on a Philips Spirit DataCine. After some small digital fixes, a DVD will be made.

Feiner points out that digital techniques can easily solve some

problems that photochemical processes can't. "For example, at the end of *Star Wars*, Princess Leia's flesh pumped red color, which seems to have been the result of the film stock being left in a camera truck in the Tunisian sun. That's the kind of thing you can fix quite easily with digital methods."

But Feiner warns against leaving the optical techniques behind. "Some say that once we scan the film in, we can trash the negative. I try to remind people that the digital scans on a DataCine are not full-color scans and are not at preservation [spatial and temporal] resolution. The film should always be held on to as an element and be properly stored. Computers can be intoxicating, but they take a tremendous amount of massaging, networking and calibrating, and some of the headaches that [result from] these systems outnumber the ones that result from the old photochemical processes. Both techniques must be used wisely and tailored to the individual tasks."

Fotokem in Burbank offers a full range of preservation and restoration services, in 16mm and 35mm, in television and features. According to Peter Eaves, one key to good work is a proper initial evaluation of the material. "We first do a bench evaluation and look at the material without putting it on any kind of machine," he says. "Then we put it on telecine, and we make notes as to where we see possible problems. There may be scratches that would be hidden by wet-gate printing, for example. Then we do a full evaluation report. If there are areas that are badly damaged or missing, we request additional elements. Once our work is approved by the client, we'll make an answer print that corrects for color fading and gives us our timing information."

Fotokem is just finishing up a restoration of the CinemaScope feature *The Great Escape*, and its technicians have also done extensive

"FADE TO... YELLOW?"

CALL CINETECH TO BRING THE COLOR BACK.

There's little worse

for a film library owner than realizing that original color negatives have faded. Up to now, there was little that could be done.

Cinetech, the motion picture industry's premier lab for film restoration, has developed a powerful, photochemical-based production line process for restoring color to film from faded original color negatives.

While alternate photochemical techniques are used by others, they rely on the need for previous elements that were created before the original negatives faded.

CINETECH'S RCI PROCESS

Cinetech's RCI (Restored Color Imaging) film restoration process) is a proprietary version of a process originally developed by Peter Kuran of VCE, Inc. and licensed exclusively by Cinetech.



Cinetech streamlined the process into one that could be used in a production line environment by making modifications to printing and processing equipment and by reducing the number of steps required to get to the finished product. The RCI process utilizes traditional con-

tinuous contact printing methods and off-the-shelf film stocks.

The resulting RCI prints and new RCI master positives from the original negative have exceptional color restoration, rivaling the original for image sharpness and fine grain quality.

Prints can be used for theatri-

cal screenings and Interpositives can be used for telecine transfer or to create a new printing Internegative.

**DIGITAL COLOR RESTORATION
COSTS UP TO FOUR TIMES MORE
THAN CINETECH'S RCI PROCESS**

Recent advances in digital imaging technology also provide a method for color restoration, but at a significantly higher cost. Cinetech's RCI process offers substantial savings for color restoration. Restorations that would cost up to \$400,000 if performed digitally, can now cost 25% of that amount using Cinetech's RCI process.

*Call Sean Coughlin
or David Cipes at Cinetech,
661-222-9073.*



Cinetech

GETTING INTO THE ACT

Most people working in film restoration today learned the craft by apprenticing with the handful of experts in the field, taking a low-level job at a film lab or archive and working their way up. Indeed, when the Librarian of Congress conducted a comprehensive study of the state of American film preservation in 1993, opportunities for formal instruction in film restoration/preservation were scarce; the University of East Anglia in Norwich, England, was offering the only degree program in film archiving anywhere in the world, and the International Federation of Film Archives (FIAP) and the Association of Moving Image Archivists (AMIA) were offering training sessions about once a year.

The field began to broaden in 1996, when the George Eastman House in Rochester, New York opened the L. Jeffrey Selznick School of Film Preservation. It is about to broaden further: following East Anglia's example, New York University and the University of California-Los Angeles are launching degree programs that provide an intellectual framework for archival practice in addition to teaching the technical skills required.

Plenty of opportunities still exist for apprenticing at film labs, of course, but following are brief descriptions of other avenues now open to aspiring film preservationists. They are listed chronologically according to when they were established.

The University of East Anglia in England launched its graduate program in film archiving in 1990. The university is home to the East Anglian Film Archive, one of the largest regional film collections in the

U.K. The one-year program is an option within the university's M.A. in Film Studies; it combines practical training at the archive, which specializes in small-gauge film preservation, and academic coursework in the School of English and American Studies. Courses include field trips to major archives in the region, such as the Imperial War Museum, the National Film and Television Archive and the Scottish Film Archive. For more information, visit the Web site: www.uea.ac.uk.

Students at the Eastman House's **L. Jeffrey Selznick School of Film Preservation** receive intensive, practice-based instruction from staff at the museum's Motion Picture Department, whose collection of features, shorts, documentaries, newsreels and amateur productions dates back to 1894. The one-year program includes guest lectures by a variety of experts representing different aspects of the restoration business, and field trips to other archival facilities in the region.

Eastman House holdings include German and French films of the nitrate (pre-1950) era, classic American films of the silent and sound periods and the MGM Studio Collection (which includes Technicolor negatives). For more information, visit the Web site: www.eastman.org.

UCLA began offering seminars in Moving Image Archive Studies (MIAS) in 1998, and the university is formalizing a two-year master's program that will begin enrolling students in fall 2003. MIAS seminars, which are currently offered at a rate of three per year, are open to graduate students in the Department of Film and Television and the Department of Information Studies.

Students work with staff in the UCLA Film and Television Archive, whose holdings include Hearst Metrotone Newsreels, Paramount films released from the late 1920s through 1948 and nitrate film

elements from several studios. MIAS students will be able to gain additional practical experience through internships at the labs, film vaults, regional archives and production facilities in the Los Angeles area. For more information, visit the Web site: www.cinema.ucla.edu/MIAS.html.

In concert with the Eastman House's Selznick School, the **Department of Cinema Studies at NYU** has formalized a two-year master's program in film archiving and preservation that will begin enrolling students in fall 2002. The department has offered instruction in archive theory and practice on an intermittent basis for several years through an arrangement with the Museum of Modern Art, which holds one of the largest public film archives in the country. The new master's program will be structured so that students spend one year studying film history and theory at NYU, and one year learning archival practice at the Selznick School.

Two years ago, NYU purchased the collection of William K. Everson, a longtime Cinema Studies professor at the university and an indefatigable film collector. Everson amassed one of the largest private collections of British dramas and comedies outside of the U.K. before he died in 1996. Most of the Everson Collection is housed at the Eastman House. For more information, call the Cinema Studies Department at (212) 998-1600.

Also worth noting is **AMIA's scholarship program**, which was inaugurated in 1997. Under the merit-based program, the Mary Pickford Foundation, Sony Pictures Entertainment and Consolidated Film Industries (CFI) lab each fund a \$4,000 scholarship; and Kodak provides a \$10,000 Kodak/AMIA Fellowship. For more information, visit the AMIA Web site: www.amianet.org.

— Rachael K. Bosley

work on *Raging Bull*, which presented some unusual challenges due to its mixture of black-and-white and color elements. "It has color in the main title and some color inserts that represent old Kodachrome 8mm home movies," says Eaves. "They were given to us as separate rolls. We printed those on color, and we inserted that into the print. The challenge is to match the black-and-white sequences printed on color negative with those printed on black-and-white stock. That eventually will go for video transfer, which will be done from separate black-and-white and color sources."

Eaves says that the biggest advance in the restoration business has been improvements in intermediate stocks. "They have much finer grain now, and the contrast is easier to control than it used to be. It enables us to duplicate damaged sections a lot more easily."

He adds that Fotokem is now offering Dynamic Light Control, a proprietary technology that allows changes in exposure levels within a scene seamlessly. The technology is being used by cinematographers to control exposure within scenes, as well as by film-restoration technicians.

The **Sony Pictures High-Definition Center** has been at the forefront of digital image restoration for nearly a decade. Originally conceived as a research-and-development facility, the facility spent much of its early life developing equipment and techniques for HD telecine and digital restoration. Sony is interested in preserving its library in a high-quality digital medium to provide superior quality images for emerging technologies such as DVD and, eventually, hi-def consumer products. The center's engineering efforts were rewarded in 1998, when it received an Emmy for its development of high-resolution telecine systems.

While much of the facility's

focus is on mastering for home-entertainment objectives, it has on occasion used its digitally restored masters to create new film elements using electron beam recording (EBR) technology. The EBR creates black-and-white separations of each frame of film; running the separations through a step printer creates color negatives. "Anytime we use this machine to make film, we automati-

"You have to keep learning. Until you open the can and get your hands dirty, you can't know what the project will be like."

—Paul Rutan Jr., Triage

cally have the archival and separation prints," says Dr. Robert Hopkins, senior vice president and general manager of the facility. Notable restoration projects that have used this process include *Easy Rider* and *The Matinee Idol*, Frank Capra's "lost" feature film.

With a staff of 75, the center masters four titles every week. Since its inception, more than 750 titles have been transferred and digitally restored. The restoration process varies widely in difficulty and length, based on the needs of each film.

Sony's Asset Management Group works with other facilities to do as much photochemical restoration as possible on a title before creating the film element that will be sent to the HD Center. "Everything that can be done photochemically is done first," says Hopkins. "We're the last line of defense on image restoration."

Although it is rarely financially practical to scan entire films for digital restoration, Jerry Pooler, creative director of digital restoration at **Cinesite**, is currently working on three films for Universal that will

AMIA

MOVING IMAGE PRESERVATION

Archivists around the world work to preserve classic and contemporary Hollywood productions, newsreels, documentaries, local television productions, home movies, independent films and educational programming.

WANT TO KNOW MORE? The Association of Moving Image Archivists (AMIA) is concerned with the collection, preservation, exhibition and use of moving image materials and provides a forum for the moving image archival community.

- Publishes Journal, *The Moving Image*
- Publishes quarterly *AMIA Newsletter*
- Annual Conference
- Scholarship and Fellowship programs
- Develops and promotes standards
- Collaborates to design, promote and implement national moving image policies and plans

For more information visit AMIA's website at www.amianet.org

Contact: AMIA, 8949 Wilshire, Beverly Hills, CA 90211; Tel: 310-550-1300



EX DEMO AND USED EQUIPMENT

Used OpTex 35mm Periscope/Borescope system available for immediate sale.

Kit comprises:

- Set of prime Borescope lenses
- 10mm/14mm/24mm/35mm
- Set of field lenses
- Lens support for bridge plate
- PL universal camera mount
- PL lens mount for Periscope
- Rigidised case

USA pricing:

\$10,250 ex-works (Used)

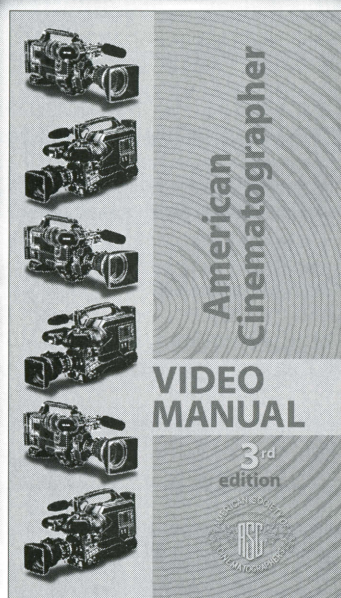
\$20,500 ex-works (Ex Demo)

Lease Rental Terms available subject to status

+44 (0)20 8441 2199
email: sales@optextint.com

OpTex

NOW AVAILABLE!



ASC VIDEO MANUAL

3rd Edition

Paperback
464 pages
Actual size 4" x 7"

The Learning Curve

require a complete scanning effort: *The Man Who Knew Too Much*, *To Hell and Back* and *To Kill a Mockingbird*.

"These are significant titles and Universal wants good printing elements for them," says Pooler. "*The Man Who Knew Too Much* has severely faded VistaVision color negatives. The black-and-white fine grain of *To Kill a Mockingbird* is in poor condition, and *To Hell and Back* has severe differential dye fade. We've been able to digitally mask the center section on *To Hell and Back*, which looks fine, and then work on the outer edges where the problem exists. This allows us to identify the area that requires rebuilding of the dye layers. While we're in there doing these fixes, we can also remove dirt and take out artifacts. It's very exciting to be a part of this."

Although film prints have no archival value, many cinematographers maintain that dye-transfer prints by **Technicolor** can be useful color references because the colors last so long. "We use registration principles that we probably understand better than any company in the world," says Technicolor's Dr. Richard Goldberg. "The tolerance is better than two ten-thousandths of an inch. The quality is better than it's ever been. The matrices are used over and over, while the blank passes over each one in kissing contact only once."

Goldberg maintains that Technicolor's updated version of the dye-transfer printing process, which was discontinued in the early 1970s but reintroduced in the early 1990s, is far superior to the older version. The process was used recently on an older negative, *Apocalypse Now Redux*, and for a few prints of a brand-new release, *Pearl Harbor*.

The dye-transfer process is an alternative to the color-positive printing process. Matrices are separated out from internegative or original negative using filtration, one each for cyan, yellow and magenta.

Timing-light settings can be adjusted during this process; alternatively, timing lights arrived at in the normal answer-print process may be applied.

The process uses four film stocks, three of which are matrix stocks and one of which is a blank. The blank receives the dyes from the matrices, which are really gelatin relief films, meaning that they vary in thickness according to light and shadow densities of the colors in the image. The matrices are dyed, and where the gelatin is thickest, more dye is transferred to the blank.

Apocalypse Now Redux went through this process under the supervision of cinematographer Vittorio Storaro, ASC, AIC. "At Vittorio's request, those prints were all made off the original negative, which had been recut," says Adam Chuck. "We made a number of passes on each reel to complete the final timing. Once that was done, we were able to make the dye-transfer release prints that you see in the field."

"Vittorio was basically able to retime the entire movie," he adds. "It was almost like starting from scratch because there was so much new material. The age of the original negative was another reason Vittorio wanted the dye-transfer process — he felt it would allow him to bring the negative's original vibrant colors and details back to life."

Technicolor also made dye-transfer prints of *Funny Girl* for a recent theatrical re-release. "This process has advantages for both old and new films," says Goldberg. "It's not like the old process. We're making use of some important principles that make the quality better than it's ever been." ■

Additional reporting for this article was done by Rachael Bosley.

To read additional coverage of moving-image preservation and restoration, including a new story on current television preservation efforts and a historical overview of preservation work, please visit our Web site at www.cinematographer.com.

Short Takes

A Motel-Room Meltdown and A Surreal Cereal Spot



Who's Watching Me?
by Jay Holben

Paranoid is an eight-minute excursion into the mind of a paranoid-schizophrenic woman on the verge of a total breakdown. The short film was adapted from Stephen King's 100-line poem "Paranoid: A Chant," which appears in *Skeleton Crew*, a collection of his short stories.

I served as both director and cinematographer on the film, and my primary goal was to create a visceral visual experience that would plunge the viewer into the chaotic and disturbed first-person voice of King's poem. *Paranoid* was primarily photographed in the span of a single day.

One of my first choices was to shoot in the 2.35:1 widescreen format. Because this project was always intended to have a digital finish, and because I didn't have access to anamorphic lenses or a Super 35 camera, I shot the film in Academy 1.33:1 and composed within the Academy frame for a 2.35:1 image. I knew the CinemaScope frame was particularly well-suited to a narrative such as this; a large portion of the storytelling comes from isolating the woman deep in a corner of a hotel room, and the expanse of the room fills the rest of the frame. I felt that 'Scope was the best choice for the story, even though it

forced me to a tape finish and pretty much eliminated the possibility of ever striking a print.

My second decision was to combine color and black-and-white imagery to differentiate between reality and the woman's delusions. King's writing is ripe with incredible imagery of "faceless men" with "eyes like silver dollars," and I wanted a canvas that would suit those images and bring them to life. All of the reality in the film is depicted in color, and all of the fantasies and delusions are depicted in black-and-white. To further control the palette, I kept the color sequences fairly monochromatic, working with a "dirty" palette to intensify the woman's destitute situation.

Although the film intercuts black-

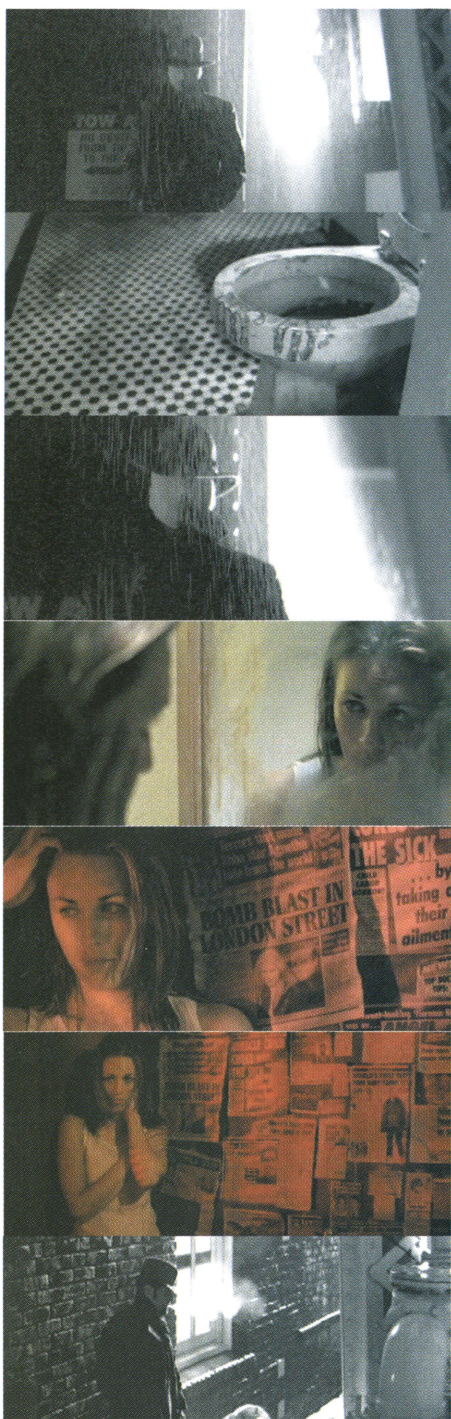
and-white and color, it was shot entirely on Eastman Kodak EXR 500T 5298 emulsion. Using one stock gave me greater flexibility later on with some inserts that were on the borderline of being real or delusion, and it also helped to cut down on the budget. The black-and-white sequences were desaturated in telecine at Riot Santa Monica by colorist Beau Leon.

My main objective with the lighting was to keep it simple yet graphic, tailoring the imagery to serve the story. For all of the black-and-white sequences, I pushed the contrast ratio to play best in graytones. For all of the lighting situations, gaffer Michael Collins and I used as few instruments as possible to avoid complicated setups.

The main location, the woman's

Paranoid, an eight-minute film based on Stephen King's poem "Paranoid: A Chant," captures the mental anguish of a woman on the verge of a nervous breakdown. Below: Director and cinematographer Jay Holben is assisted by Christopher Probst.





Holben shot the short film in the 1.33:1 aspect ratio and composed within the Academy frame for a 2.35:1 image. "King's writing is ripe with incredible imagery, and I wanted a canvas that would suit those images," he says. Principal photography was accomplished in a single day.

hotel room, was lit with three fixtures. I used a 1K Baby fitted with Lee Super White Flame (#232) gel and bounced into the ceiling to give me an overall, sourceless room tone (the ambient level of light at the base of the exposure, which sat at 2-2 ½ stops under key just to lend texture and color to the shadow areas). The Super White Flame gel is actually intended to take white flame arc sources to 3200°K, and it has a wonderful, deep amber color. Pushing a tungsten source through the filter creates an effect that is very similar to sodium-vapor lamps; this idea was inspired by a June 1995 *AC* article on *The X-Files*. Working from the overall ambient level, I was able to create a warm but dirty light that isn't very pleasing on flesh tones, which is what I wanted. The wallpaper on the set was carefully chosen to work well with that source color to suggest a very dilapidated look.

To light the woman in the corner, I had a straight sidelight raking down the wall, usually from a 150-watt Pepper gelled with the same Super White Flame. For one or two of the wider shots, I hid a Mini Kino Flo on the side of the lamp next to her to get the same sidelight feel. Outside of the window, I had a 2K Baby Junior coming through Rosco Medium Red (#27) on a Variac, and our best boy sat out there all day long, rolling the dimmer up and down to simulate a flashing neon sign. I also put two Tweenies on a single stand outside of the window; they were panned to emulate car headlights passing by, adding another layer of texture to the lighting.

The insert work was all done over the course of three nights prior to principal photography, and I kept those setups very simple as well. In fact, I had no crew at all for those shoots. I was able to make *Paranoid* because I was producing and shooting a number of other small projects that I had grouped together in order to pool resources. At the end of each shooting day, I'd take the camera package and a small lighting package home and shoot my *Paranoid* insert list before I went to bed. In the morning, I'd pack the gear up and take off for that

day's job, and then repeat the whole process that night. Although it was a bit lonely working alone, I also found a kind of purity in each of the setups. Although I certainly don't want to work like that again, I enjoyed the experience.

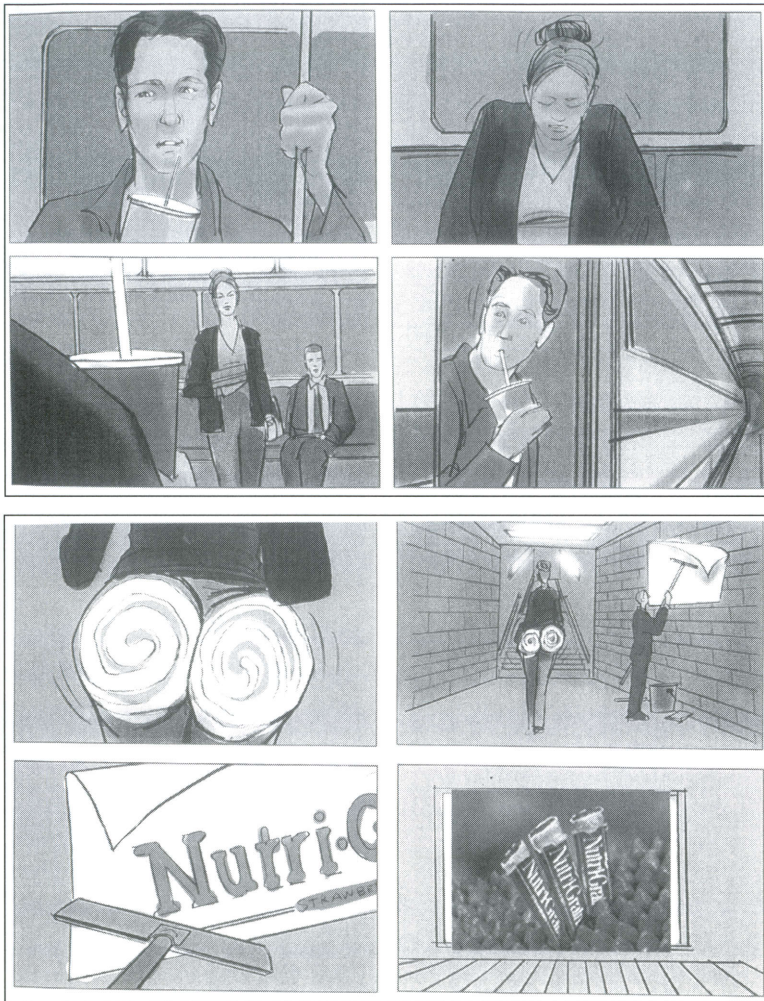
The most important thing for me was to stay true to King's words. I spent a great deal of time studying the cadence of his text and carefully structured the whole film around his patterns of words. Where he broke paragraphs, I took visual breaks. Where he broke lines or deliberately formatted his text in a certain way, I strove to interpret that choice visually. It was imperative that his words be the driving force behind the film.

On the occasions when I've been both director and cinematographer, I've preferred to work with a camera operator in order to free my concentration from the viewfinder. However, I served as my own operator on *Paranoid*. Because the set was so small and compact, I didn't feel any lack of connection with my lead actress (Tonya Ivey), and I was very comfortable directing from the eyepiece. For me, however, working that way is a rare exception — I'm not a believer in the auteur theory. Filmmaking is a collaborative art that requires every position to really make the magic happen; we just happened to have gotten lucky and made magic with a very small crew.

Breakfast in Prague by Stephanie Argy

In a recent commercial for Kellogg's Nutri-Grain, pasty-looking commuters on a subway train eat various kinds of breakfast junk food as they ride along, while a narrator warns, "You are what you eat." As the spot draws to a close, we see a subway station filled with commuters, including one woman whose rear end is a pair of frosted cinnamon buns.

The cinematographer of the commercial was Matt Uhry, and the director was Rafael Fernandez. The two first met when Fernandez was looking for someone to help him shoot a short film. "He wanted to shoot on video," Uhry remembers. But Uhry, who had just



Storyboards for a recent Kellogg's Nutri-Grain commercial summarize its narrative, which unfolds in a subway car during the morning commute.

bought a Russian anamorphic 35mm camera package, talked Fernandez into shooting on film. When the short, *Oregon*, was finished, it garnered a lot of film festival invitations and industry word of mouth, while simultaneously becoming one of the most frequently downloaded shorts on ifilm. Eventually, on the strength of *Oregon*, the production company Slo.Graffiti, a division of Palomar Films, signed Fernandez as a commercial director.

After doing a few smaller commercials together, Fernandez and Uhry won the Nutri-Grain job, their first national spot. An unexpected twist for the team was that the ad was to be shot in Prague. A local company called Stillking Films, which hired the crew and arranged for the rental of equipment,

handled production in the Czech Republic.

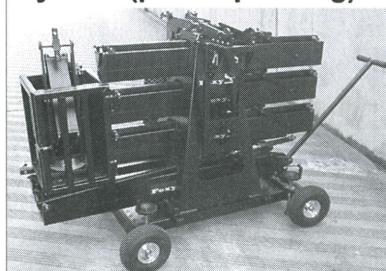
Uhry said he was a little unsure about what he would find in Prague, but in the end he was very satisfied. "They have full studios there, and all of the equipment was at least as good as what you could get in the United States, outside of Los Angeles and New York," he says.

Uhry was also very pleased with the local crew. The Czech department heads all spoke some English, and Uhry found that the crews were well-versed in the craft of filmmaking. He did, however, find certain cultural differences in the way the crews worked. The gaffer and electrical crew set lights and stands themselves, for example, while the grips handle only the dolly, improvising levels

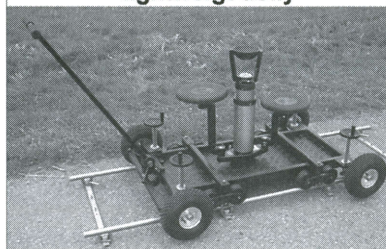


PANTHER

Revolutionary transport system (patent pending)



Base can be used as lightweight dolly



- various length possible
- set up by 1 person in 5 min.
- lightweight:
 - outrigger 30 lbs (14kg)
 - Fulcrum 44 lbs (20 kg)

Please ask for information video of the Foxy crane!

New address!!

Panther GmbH
Raiffeisenallee 3
82041 Oberhaching-Munich
Tel: 49-89-613900 01
Fax: 49-89-6131000
contact@panther-gmbh.de
www.panther-gmbh.de



HDTV RANGE EXTENDERS



LENSES

HDTV Range Extenders

- Custom designed and manufactured to the highest standards
- 1.4x (1 stop light loss)
- 2x (2 stop light loss)
- B4 to B4 mounts
- Suitable for use on 2/3" HD cameras

OptiTex

First For
High Definition

International Distribution by OptiTex
+44 (0)20 8441 2199, fax +44 (0)20 8449 3646,
e-mail sales@optitext.com
or read more on www.optitext.com

US Sales contact ZGC:
(973) 335 4460, fax (973) 335 4560
read more on www.zgc.com

MOVIECAM



856 Raymond Avenue

St. Paul, MN 55114

612/ 646-1780

www.cinequipt.com

for the tracks with paper coasters promoting Czech Pilsner beer.

Although the production could afford to shoot two 12-hour days in Prague, the schedule was still tight. The crew was able to board the subway train at 6 p.m. and shoot as long as they needed to. The station, however, was available only from 1-4 a.m., so on both nights the crew had to hurry from the train to the station, shoot the sequences there, and get out at exactly 4:01.

Uhry had shot on subway trains before, but this shoot was the first time he had worked on one in an official, organized way, and he found several aspects of the shoot unexpectedly complicated. The dolly, for example, proved difficult to control during the stops and starts of the train. "You don't appreciate the ability of the train to accelerate," he says. Moreover, the magnets underneath the train affected the video-tap monitor, so that it was impossible to get an accurate remote view of what was going on. "If you really had to depend on the monitor, it could be a big problem," says Uhry.

Although the production rented its own train, the tracks were active with other trains. The production's train couldn't alternate directions — it simply ran the length of its route for 45 minutes, then returned along the same path, traveling backwards. This meant that the view of the wall outside the window was moving in the wrong direction for the 45-minute return journey, which caused the production even more time pressure.

According to Uhry, lighting in the train and in the station was the most complex aspect of the job. On the train, lighting and camera placement were both complicated by all of the windows, which caused reflection problems. In addition, because of the rules of the local transit authority and the size of the tunnels, it was impossible to mount anything on the outside of the train. To illuminate the walls outside the windows, lights had to be mounted within the car, pointing out through the windows on either side of the area appearing in the shot. A putt-putt generator that the crew brought onto the train powered all of the lights.



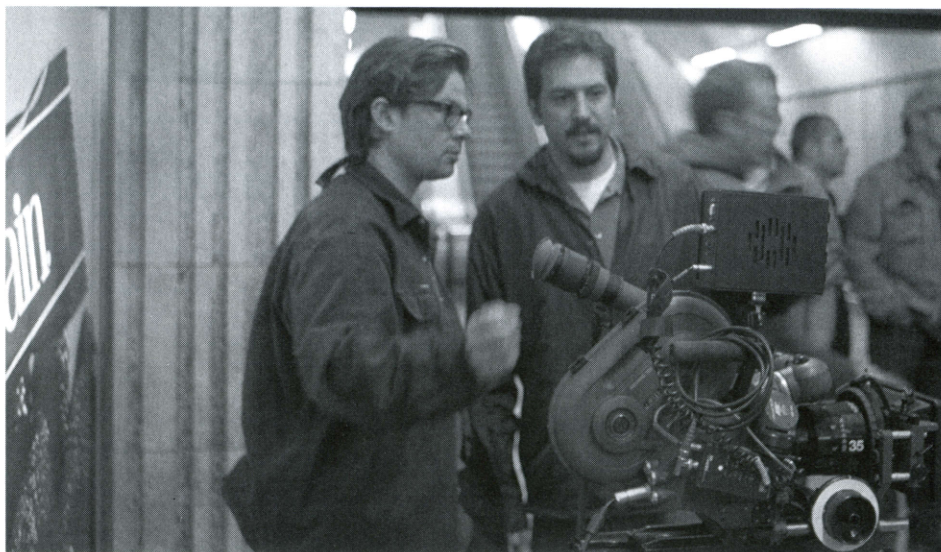
A passenger devouring a frosted cinnamon bun attracts attention when she stands up and reveals that the treat has literally gone straight to her hips. Cinematographer Matt Uhry and director Rafael Fernandez were careful to not allow the spot's style to give away its surreal conclusion.

Because the spot ends with such an absurd, surreal touch, Uhry and Fernandez wanted to make sure the lighting didn't give away the ending by being too wacky. Fluorescent lighting seemed the most appropriate look for the subway train, so Uhry relied almost exclusively on Kino Flos. He replaced the bulbs in the row of fluorescents that ran

down the center of the subway car's ceiling with tungsten-balanced bulbs, then rigged another set of fluorescent lights on either side of the ceiling.

Uhry confronted different challenges in the station. He had to develop a look that would work over a big area, but he found that he couldn't replace the existing lights because they were about two inches longer than standard fluorescent tubes. Instead, he had to match the color temperature of his own lights to the ones already in the station, which had a greenish cast. He warmed his HMI's up to about 4300°K using ¼ to ½ CTO gels, as well as CC+ 15 green. MR16s, gelled just with green, were built into frames that held the giant Nutri-Grain billboards seen at the end of the commercial.

For the Bun Girl's walk-away, Uhry lit with a 2.5K Aurasoft and created a rim around her with a 4K HMI with a Chimera. The shot was especially difficult for the first camera assistant, because it was photographed at 50



frames per second on a 200mm lens, wide open.

Panavision has an office in the Czech Republic, and Uhry was able to rent a Pan-Arri 435 with Primo lenses and a 200mm Nikkor f2 lens, a familiar package that made him more comfortable in the unusual surroundings. He

Uhry (left) and Fernandez (center) filmed the spot over two 12-hour days in a Prague train station, which was open for business during the shoot.

also used a Super Panahead, which he finds gives him far more control than a fluid head. "Once I learned how to use a geared head properly, I couldn't go back," he says. ➤

8.4" and 10.4" monitors:

Transvideo 8.4" and 10.4" High-Brightness monitors feature the **widest viewing angle** today (70° from both sides). Viewable in **full sun without hood**. Displaying **4:3, 16:9 and Anamorphic images**, they accept all Composite signals (NTSC, PAL and SECAM).

The **8.4" flat screen displays an image comparable in size to that viewed on a conventional 10.4" monitor, while weighing only 3.5 lbs.** The 10.4" compares to a 13" and weighs only 5 lbs. When equipped with a wireless receiver and the battery back, the 8.4" or 10.4" monitors **can be carried by the Director as he walks around the set freely.** The **Freeze** function allows the Director to pause the monitor, walk up to the actors and discuss the scene pictured on the screen. The Freeze function is also a very efficient way for the Director to communicate with the video-assist Operator.

The **Detail Menu** is especially designed to **facilitate focus pulling.**

The **first choice for remote heads, aerial photography, and all location work.**



**CALL US FOR
NEW PRICES!**

FRANCE

Z.I. BP 526

27135 Verneuil S/ Avre

Tel: +33 (0) 2 3232 2761

Fax: +33 (0) 2 3260 1479

USA

10700 Ventura Blvd #2A

North Hollywood, CA. 91604

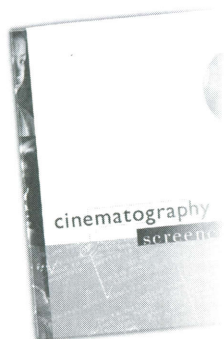
Tel: 818 985 4903

Fax: 818 985 4921

transvideo®

Website: www.transvideointl.com

Email: info@transvideointl.com



Cinematography Screencraft

by Peter Ettedgui

The 17 directors of photography profiled in this book encompass three generations of filmmaking, representing a wide range of visual styles — from *The African Queen* to *Delicatessen*. Lavishly illustrated with over 500 color pictures, 300 black-and-white photos, and numerous diagrams, this reference features informative accompanying text based on interviews with each cinematographer. This is a perfect book for practicing professionals, students, and movie buffs alike.

Softcover, 9" x 12", 208 pages \$37.00
(800) 448-0145 • www.cinematographer.com

How is this publication thinking about the future?

By becoming part of the past. We'd like to congratulate this publication for choosing to be accessible with Bell & Howell Information and Learning. It is available in one or more of the following formats:

- Online, via the ProQuest® information service
- Microform
- Electronically, on CD-ROM and/or magnetic tape

UMI®
Microform & Print

ProQuest®

BELL & HOWELL
Information and Learning

For more information, call
1-800-521-0600, ext 2888 (US) or 01-734-761-4700 (International)
www.bellhowell.infolearning.com



14 Week Filmmakers' Professional Certificate Program

Fall term begins August 27, 2001

A 14-week
comprehensive curriculum

Including Film History and Theory,
Screenwriting, Pre Production and Budgeting.
Work with 16mm film cameras,
DV and Betacam in the field and studio.
Also AVID and Final Cut Pro.

You will produce
10 personal films

Including Music Videos, Dramatic Scenes,
TV Documentaries, TV Commercials and
Weekly 1-minute videos.

Call toll free 877•577•7700

www.FilmWorkshops.com

The International
Film & Television
WORKSHOPS

207/236-8581 • FAX: 207/236-2558 • info@TheWorkshops.com

Uhry's stock was Kodak Vision 500T 5279, which he says is foolproof in situations where a lot of color temperatures have to be mixed. Nevertheless, he admits that if he'd had more light to work with, he would have shot on Vision 200T 5274, which he finds to be nearly grainless when transferred on a Spirit. Aside from Tiffen FLD, which he used to balance out the color temperatures in the station, Uhry used no filtration on the camera.

For the most part, Uhry shot at 25 fps to avoid flicker because electricity in Prague runs at 50 kHz. (He adds that it's also possible to avoid flicker by setting the shutter angle at 172.8 degrees.) Because the subway's own lights were not very bright, Uhry's base exposure was about T2.8.

Uhry and Fernandez went into the shoot with very specific ideas about color. The Nutri-Grain posters seen on a wall at the end of the spot are bright red and yellow, so to make them stand out, the director and cinematographer wanted to give everything else a blue cast. The wardrobe, by Czech costume designer Zdenek Krízek, was selected so that it would play in the bluish light that Uhry and Fernandez had chosen.

"Rafael and I had a lot to prove," says Uhry, and the spot seems to have succeeded: it was chosen by Ad Week as one of the best spots of July 2001. Most importantly, it gave the duo national exposure, which means that it was watched by at least a couple of very important people. "It's cool to have your parents say, 'We've seen your commercial,'" says Uhry.

Credit Where It's Due

In our August '01 piece on the short film *Genesis and Catastrophe* (pp. 90-92), we neglected to include a photo credit for Lee Bernstein, who took the shots that accompanied our article. ■

New Products & Services

compiled by Douglas Bankston



Screening Room On The Go

Joe Dunton & Company has created The Screening Room as a way to have screening room facilities wherever necessary. Constructed by set construction company Jonco, The Screening Room features an 8' curved screen and surround sound enclosed in a 30' Pace trailer of the maximum width and height permissible on U.S. roads. The interior includes carpeting, stadium seating in the rear, leather reclining chairs in the front and soundproofing throughout. Track and floor lighting illuminate the interior, and additional multiple outlets are positioned around the trailer. An air-conditioning and heating unit is installed and a small refrigerator is included to hold refreshments.

An Arri LocPro 35 is mounted on the projector podium for motion-picture screenings. (See *AC*, "New Products and Services," Feb. '01 for an in-depth look at the Arri LocPro 35.) The LocPro has the ability to fast-forward and rewind at any speed up to 200 fps with freeze-frame and single-frame advance. A DAT tape is created to match the dailies film reel and is coupled to the LocPro. Sound is played

through a Bose surround sound system.

The Screening Room can also be set up with video projection and a large plasma screen. Or a DVD player can be added, making this a multi-format mobile facility.

For more information about The Screening Room, contact Joe Dunton & Company: in the U.S. (910) 343-1089, in the U.K. +44 208 324 2311, e-mail: joedunton@aol.com.

DVD Dailies at FotoKem by Debra Kaufman

Studio executives who want to watch dailies at home or in the office, directors who want to be able to quickly locate and view clips or takes, cinematographers on location who need to screen high-quality imagery — for all of them, DVD dailies are an up-and-coming solution. It's a trend in the making, and FotoKem Film and Video in Burbank is one of a handful of facilities leading the way.

According to director of DVD services Drew Huntsman, when FotoKem decided to get into the DVD business, the original target was to provide DVD encoding for the numerous



large-studio clients who already do film and video work there. But once the facility was built, FotoKem quickly discovered another business opportunity: DVD dailies.

Built in January 2001, FotoKem's DVD facility is almost entirely Windows-based, with the exception of the Sonic Solutions (formerly Daikan) Scenarist DVD-authoring tool, which runs on an SGI Indigo 2. Other equipment includes Spruce Technologies' Maestro full production DVD-encoding and authoring tool, Digital Vision and Sony video encoders, and a Panasonic emulator, among other tools. An experienced DVD author, Huntsman says he configured the system with a pair of computers designed to do the MPEG-2 video and any post processing, tied together but

The Screening Room, created by Joe Dunton & Company, is a fully equipped "theater on wheels."

separated from the DVD-authoring tools. "This streamlines production and keeps us from tying up expensive authoring tools to do simple streaming video work," he notes.

Shortly after opening the DVD facility for business, FotoKem got a call from Revolution Studios. The studio had just completed *America's Sweethearts* using DVD dailies from the Sony facility. Revolution was planning to do film dailies at FotoKem for its next feature, *The One* (see feature article on pg. 50), and wanted to know whether FotoKem could also do DVD dailies. "We thought it would be great filler work to kick off our DVD studio," remembers Huntsman.

FotoKem quickly arrived at a system for creating DVD dailies. After taking delivery of the film by 7 p.m., the telecine transfer was finished at midnight, and the DVD division would get an EDL with timecode settings for each of the slates and the reels. Huntsman calculated the encoding bit rate that would allow him to fit the material onto a single disc, and he then encoded video and audio, creating chapter points at each slate. While the material was encoding, other DVD team members prepared the documentation and created menus for the different reels. By 8 a.m., the DVDs were burned and ready to be sent to the film's creatives and studio executives.

"We started by giving them two DVDs," says Jim Hannafin, FotoKem's senior vice president of business development. "But they all got so excited about it, we ended up creating seven discs a day."

The convenience factor is making DVD dailies increasingly popular. For executives who "want what they want when they want it," nothing is as flexible as a DVD; it saves the time and frustration of shuttling a VHS from clip to clip and ups the resolution and overall image quality. Hannafin points out that film producers and execs benefit from the fact that FotoKem does it all, from lab to DVD, under one roof.

From the point of view of Tom Sherak, a partner in Revolution Studios, DVD dailies were an indispensable part

of creating *The One*. "Everyone here became an enthusiastic fan of DVD dailies," he says. "It was great not having to stop what we were doing to run to a screening room and fast-forward when we needed to fast-forward. I could watch footage on my TV or laptop and push a button to get to where I wanted to go. It was very convenient for everyone, and I think we saved a lot of people a lot of time."

FotoKem next offered DVD dailies services to the Spike Jonze-directed *Adaptation*. "He had a number of special requests, and we were able to tailor the process to meet his needs," says Huntsman. That included putting bars and tone from the original master tapes on the DVD and creating custom labeling and menus to make it easier to access the desired options. Jonze also wanted to view the DVD dailies projected, so FotoKem set up a theater for that.

FotoKem's DVD division is also busy at work on DVD mastering (Artisan's *Night Scare* is a recent project), as well as digital asset management and trailer libraries. But it's clear that DVD dailies are no longer a "filler" item in the new division. "DVD dailies are a really good example of how technology can make film executives' lives more convenient and give them exactly what they want," concludes Hannafin.

FotoKem Film and Video, (818) 846-3101, fax (818) 841-2130, Web site: www.fotokem.com.

The Latest Technique: Technicolor's Digital Film- Mastering Facility by Bob Fisher

Technicolor has opened Technique, a digital film-mastering facility, in Burbank, California, with executive vice president Peter Sternlicht at the helm. The new facility is providing long-form digital film scanning, recording and color-grading services for feature releases.

"This is a logical extension of services for us," says Sternlicht. "We're providing a creative option that can enhance the moviegoing experience. Filmmakers can also create universal distribution masters, which ensures that

their creative vision is seen in all release formats, including HDTV, DVD and other media."

The new facility is called Technique as a tribute to Technicolor founder Dr. Herbert Kalmus. The word "Technique" was on the cover of the MIT yearbook in 1904, when Kalmus earned his doctorate. He founded Technicolor in 1915; the facility's name was a combination of "technique" and "color."

Sternlicht points out that the creative tools used in digital-intermediate technology have been standard for music videos, commercials and TV post-production for many years. "The telecine suite has become an extension of the creative process in all of those areas," he says. "It was very crude in the beginning, but as the digital tools evolved, people's imaginations took off. They'd shoot film, convert it to digital format, and manipulate the images in an interactive environment. Now these tools are available to filmmakers for the big screen."

Sternlicht notes that film labs and post facilities in Copenhagen, Paris and several other European cities have routinely provided digital-intermediate services for independent filmmakers for about two years. "They aren't dealing with big studios, where different people have budget responsibilities at different phases of production and postproduction," he observes. "It's an independent creative community in Europe."

Several U.S. films, including *Pleasantville*, *O Brother, Where Art Thou?* and HBO's *Conspiracy*, have also been timed in digital suites. The latter was simultaneously released in 35mm film, hi-def and standard video formats. "One of the advantages is that once you go through this process, you never have to go to telecine again," Sternlicht says. "We're building a very large facility where we can store data files that will serve as a master for all current and future film and digital release formats. It's not an archival medium. You should still store your negative and separations properly in a vault for posterity. Even data on computer hard drives will eventually degrade, but we can monitor and migrate files so that they're always a true repre-

sentation of the filmmakers' intentions."

Technique has outfitted two suites with Philips Specter Virtual DataCines and Pandora color-correction systems. The facility is currently converting film to digital files at 2K resolution while retaining the full dynamic range of colors and contrast on the negative. "We're not claiming 2K resolution is good enough for every film," says Sternlicht. "It's not a panacea. It's what is practical today, and it will work for many applications. Directors and cinematographers can work with timers in an interactive, collaborative environment while viewing digitally projected images calibrated to parallel film in a screening-room environment. We can convert the digital files to intermediate film with one of several Arrilaser recorders and project prints side by side with projected data in the digital suites. We can also output to HD and other popular video formats.

"Once it's practical to convert film at 4K resolution, Technicolor will be uniquely positioned to provide the best attributes of digital and photochemical technologies for film preservation," he adds. "That's the next logical step."

For more information about Technique and its services, call (818) 260-3600, or e-mail: peter.sternlicht@technicolor.com or evan.edelist@technicolor.com.



Optimal Zooms

Angenieux has introduced the Optimo 24-290mm 35mm Film and the 12x9.7 High-Definition zoom lenses, which have the highest optical quality available for 35mm film and hi-def video cameras. Extremely fast aperture speeds of T2.8 for the 35mm version and f1.4 for the HD version provide a very large depth of field and vast range. The lenses produce impressive contrast and color

Ten

There are now ten Cooke S4 focal lengths.

The two new lenses: a 21mm T2 and a 135mm T2.

The others are: 14mm, 18mm, 25mm, 32mm, 40mm, 50mm, 75mm and 100mm.

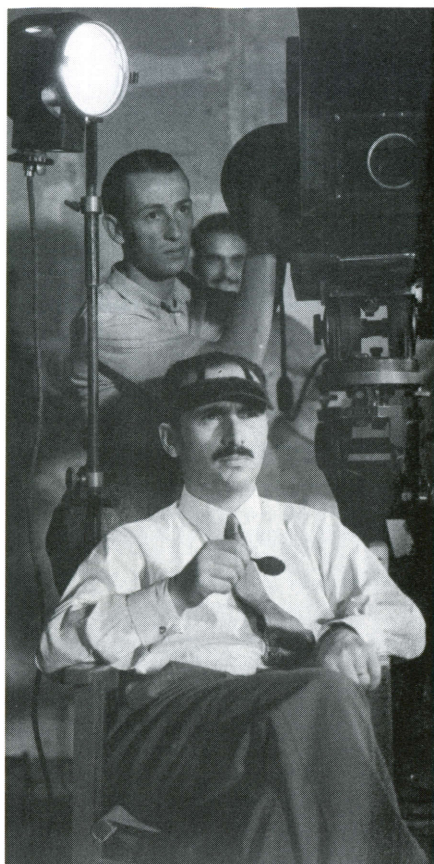
They're all T2 and all ten lenses cover Super 35.

Cooke

OPTICS SINCE 1893

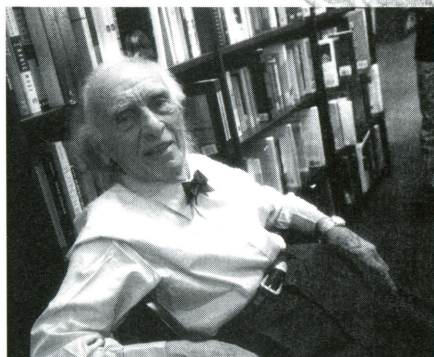
www.cookeoptics.com





JOHN ALTON'S PAINTING WITH LIGHT

WWW.
CINEMATOGRAPHER.
COM



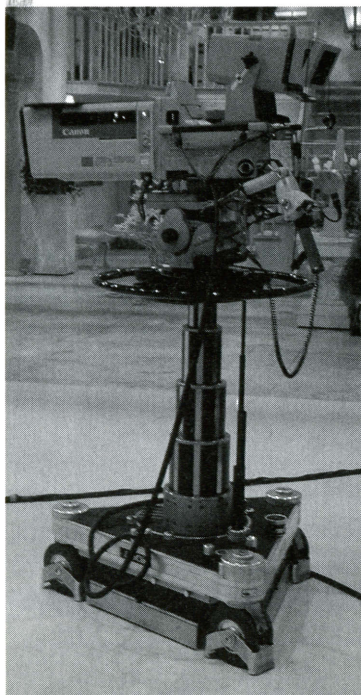
reproduction that rival the performance of prime lenses. The mechanics employed in the Optimo lenses are designed for precision and durability and feature an exclusive optical design to completely eliminate breathing or ramping.

"The quality and performance of our new Optimo Series Lenses are clearly superior in both the film and HDTV lens categories," says Chris Beauparlant, Angenieux sales manager. "The performance of these lenses is only limited by the capabilities of the cameras with which they'll be used."

For more information on Angenieux in the U.S., call (973) 812-3858, fax (973) 812-9050, e-mail: angenieux@tctus.com, Web site: www.angenieux.com.

Placed on a Pedestal

Chapman/Leonard Studio Equipment, Inc. won the prestigious Emmy 2001 Engineering Plaque for its LenCin Pedestal. Developed as a result of



requests for a new and improved pedestal, the LenCin allows wider range of vertical camera movement, greater rigidity and precision in movement, greater dependability in the level of performance, reduced noise levels and maintenance requirements.

The LenCin Pedestal's column can be separated from the chassis, allowing it to be used as an independent functioning column or to reduce the carrying weight for easy transportation. The column can be leveled and secured directly to various surfaces. This enables use in smaller spaces, including stairways when required. The operator has the choice of tire composition to accommodate various ground conditions.

The unique design of the LenCin's four-stage column provides the ability to achieve a lower lens level (17 3/4" camera mount height) while being able to extend to the top height position (56 3/4" camera mount height) with 39" of vertical travel. The pedestal's increased payload capacity of 20-320 pounds and improved rigidity of the LenCin Pedestal allow for the direct application of jib arms or heavier studio cameras. The LenCin's cable guard system and its large diameter wheels enable use in both indoor and outdoor applications.

For more information, contact Chapman/Leonard. In Los Angeles, (888) 883-6559. In Texas, (888) 758-4826. In Orlando, (888) 337-8243. In Canada, (604) 299-0913.

Let There Be Light and Power

Illumination Dynamics, Inc., a new lighting and power generation service provider, has opened its doors for business. Illumination Dynamics provides lighting and power-generation rental equipment and technical services to the motion-picture, television, special events and sports broadcast markets throughout North America. The company has its headquarters in Los Angeles and an East Coast division in Charlotte, North Carolina.

"We are extraordinarily excited to form Illumination Dynamics to provide innovative lighting and power solutions to the entertainment industry," says company president Carly Barber. "Our focus will be on first-class equipment, with excellent technical service and support." Barber, an ASC associate member, was previously the president of Hollywood Rental.

ORDER FORM

When in
Hollywood come
visit us at the
ASC Clubhouse
1782 North Orange
Drive, Hollywood,
CA 90028

Mon– Fri
10 a.m. – 4 p.m.

See website
or call for a
complete listing
of titles and
other products.

SHIPPING & HANDLING CHARGES:

Item	U.S.	Each addl. Outside U.S.
Books	\$5.00 \$6.00	\$1.00 \$5.00
Videos	\$5.00 \$6.00	\$1.00 \$5.00

Your order can be received
within 2-3 business days
for an additional \$8.00,
U.S. ONLY.

TITLE	ITEM	QTY.	UNIT PRICE	TOTAL PRICE
ARRI — Arriflex 435 Book - Jon Fauer	Book		\$42.00	
ARRI — Arriflex 16SR Book - Jon Fauer	Book		\$38.00	
ARRI — Arriflex 16SR3 Book & Film Series - Jon Fauer	Book		\$78.00	
ARRI — Arriflex 35 Book - Jon Fauer	Book		\$44.95	
KODAK — Exploring the Color Image	Book		\$24.95	
KODAK — Student Filmmaker's Handbook	Book		\$21.95	
KODAK — Photographic Filters Handbook	Book		\$14.95	
KODAK — Kodak Color Print Viewing Filter Kit	Book		\$29.95	
KODAK — Using Filters	Book		\$14.95	
KODAK — Corporate & Location Photography - Gary Gladstone	Book		\$29.95	
KODAK — Studio & Commercial Photography - Jack Reznicki	Book		\$29.95	
ASC Press — Writer of Light, Vittorio Storaro, ASC, AIC - Ray Zone	Book		\$34.95	
ASC Press — American Cinematographer Video Manual - 3rd. edition.	Book		\$49.95	
ASC Press — American Cinematographer Film Manual - 7th edition, pbk.	Book		\$29.95	
ASC Press — Anton Wilson's Cinema Workshop - 4th edition	Book		\$19.95	
ASC Press — The Cinema of Adventure, Romance & Terror - George E. Turner	Book		\$29.95	
Cinematography Screencraft - Peter Ettedgui	Book		\$37.00	
Grammar of the Film Language - Daniel Arijon	Book		\$29.95	
Every Frame A Rembrandt - Andrew Laszlo, ASC	Book		\$34.95	
The Five C's of Cinematography - Joseph V. Mascelli	Book		\$29.95	
Practical Cinematography - Paul Wheeler	Book		\$34.95	
Kodak Cinematography Master Class Series:				
Lighting "Dances With Wolves" with Dean Semler	Video		\$89.95	
Studio Lighting: A Comparative Workshop with Don McAlpine & Denis Lenoir	Video		\$89.95	
Location Lighting with Geoff Burton	Video		\$89.95	
Lighting "Dead Poet's Society" with John Seale	Video		\$89.95	
Shooting for Drama with Robby Müller & Peter James	Video		\$89.95	
Shooting for Fantasy with Sacha Vierny & Denis Lenoir	Video		\$89.95	
Shooting for Realism with Allen Daviau & Sacha Vierny	Video		\$89.95	
Shooting for Black-and-White with Allen Daviau & Denis Lenoir	Video		\$89.95	
SPECIAL DISCOUNT — 8 program series (Save \$140.60)	Videos		\$579.00	
Lessons in Visual Language Series:				
Shot Sizes and Framing Faults	Video		\$49.95	
Framing	Video		\$49.95	
The Third Dimension	Video		\$49.95	
Lenses and Perspective	Video		\$49.95	
Movement and Moving the Camera	Video		\$49.95	
Orientation of the Camera	Video		\$49.95	
Image and Screen	Video		\$49.95	
Editing	Video		\$49.95	
Rhythm	Video		\$49.95	
Music	Video		\$49.95	
Incubus, starring William Shatner, director of photography Conrad Hall, ASC	DVD		\$29.95	

Payment: ☐ Payment Enclosed Charge my: ☐ VISA ☐ M/C ☐ AmEx

Card # _____ Exp: _____

Signature: _____ Phone: _____

Please Ship to:

Name: _____

Address: _____ Apt.# _____

City _____ State _____ Zip _____

Phone: _____ Country _____

Subtotal

Sales Tax
(on Subtotal)
(CA residents 8.25%)

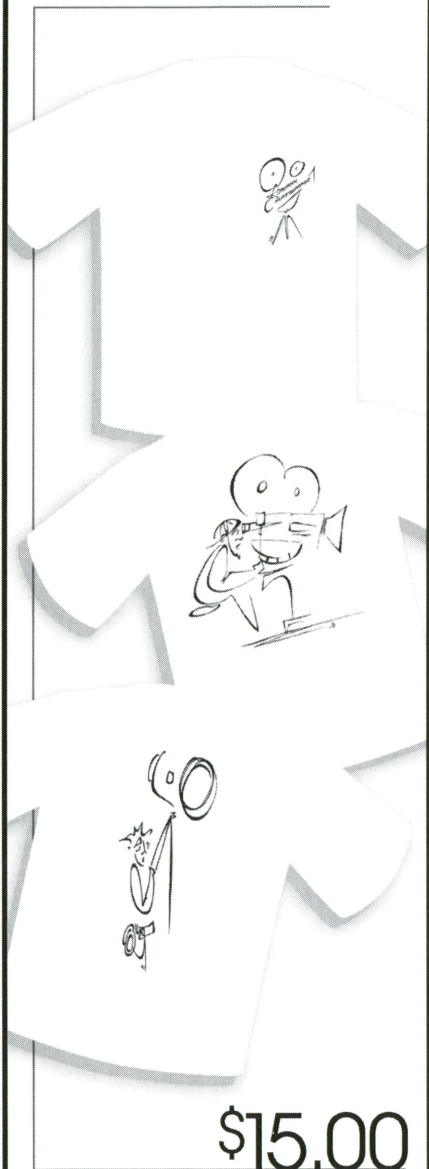
Total Shipping

TOTAL

American
Cinematographer
The International Journal
of Film & Digital Production Techniques

Mail Orders to: **AMERICAN CINEMATOGRAPHER, P.O. Box 2230, Hollywood, CA 90099-5294**
Phone orders: (800) 448-0145 U.S. Only, (323) 969-4333 All others ♦ Fax orders: (323) 876-4973
Allow 6 weeks for delivery outside the U.S. ♦ U.S. currency only. ♦ 30 day money back guarantee on books only.

THE AC SKETCH SHIRTS



\$15.00

TO ORDER CALL

800.448.0145

OR 323.969.4333

OR VISIT US AT

WWW.CINEMATOGRAPHER.COM

Illumination Dynamics, 10232 Glenoaks Blvd., Pacoima, California, 91331, toll-free (866) 544-4843, (818) 686-6400, fax (818) 686-6776. The Charlotte division is located at 3827 Barringer Dr., Charlotte, NC, 28217, (704) 679-9400, fax (704) 679-9420. The Web site is www.illuminationdynamics.com.

Big Performance in Small Packages

MicroDolly Hollywood has released its new Suction Mount Kit. Three strong suction cups, six universal joint clamps and a set of rods connect to a sturdy camera plate to quickly mount a camera or light in almost any place. Ideal for positioning a camera or light on a moving vehicle, the kit weighs just six pounds and is packaged in a rigid, metal, reinforced travel case that may also double as a camera platform for low-angle shots. The kit works with all MicroDolly camera-plate accessories and risers.

Also from MicroDolly is the Jib Dolly. Designed to carry a fully loaded Jib complete with camera, tripod and counterweight, the Jib Dolly works well in both studio and location situations. Large foam-filled tires eliminate the risk of going flat. The Jib Dolly will support 400 pounds (180 kg) and assembles in less than three minutes without tools. Hefty footpads screw down to secure and level the dolly. A heavily padded, custom-made tube bag is included.

MicroDolly Hollywood, (818) 845-8383, fax (818) 845-8384, e-mail: microdolly@microdolly.com, Web site: www.microdolly.com.

Easy Jibbing

In the videography world, the new lightweight EZ FX Jib is ideal for field, studio and multi-camera productions because of its portability and simple setup. The wide range of camera movement created by the jib produces smooth, floating camera shots and simulated dolly moves. With brakes for locking the jib into a stationary position, the EZ FX Jib can also be used to frame up the video camera into an infinite

number of angles for still shots, saving valuable time. Optional accessories for monitoring, portability and special applications are available, such as carry bags, a monitor bracket and platform, an EZ Undersling to mount the camera on the underside of the jib, and an LCD Vest.

What sets the EZ FX Jib apart from other jib products is its compatibility with the EZ FX Handle, which allows videographers to control the pan and tilt of the camera on the end of the jib without expensive motorized heads. With the camera as much as 4.5' overhead, operators can manually pan the camera 300°



and tilt 125° with the same fluid movement they're accustomed to from a tripod.

EZ FX, Inc., (800) 541-5706, (407) 877-2335, fax (407) 877-6603, Web site: www.ezfx.com. ■

Points East

ABC's NYPD Series *The Job* Hits Comedic Beat

by Eric Rudolph

In a hardscrabble, industrial no man's land near Long Island City, Queens, a bold experiment in filmed television production is taking place. The main police-station set for the ABC series *The Job* is housed in an old warehouse that sits partially astride one of New York City's fetid, vestigial canals, and it is there that cinematographer John Thomas and two operators take the small-gauge, cinéma vérité approach of another police show, *Homicide: Life on the Street* (see AC Oct. '95), several steps further.

The Job is a half-hour sitcom about the New York Police Department that stars Denis Leary. Thomas and operators Peter Reniers (A camera) and Jim Denny (B camera) use Aaton XTRprod Super 16 cameras fitted with 800' magazines to shoot the show. The actors have no marks, and the two cameras often cover several hundred degrees of the hard-walled set in single shots. Little illumination is used other than available light and practicals, and the operator-controlled manual zooms slide in and out ever so slightly, as if controlled by jittery combat photographers.

"We're after a sense of realism, the feeling that we're finding these scenes as they're happening," says Thomas, whose credits include another New York-based show, *Sex and the City*. "We want it to look as if we're catching up to the action as it unfolds."

Director Tucker Gates explains that the crew's approach is to "shoot in a way that keeps the room alive." When it works, "it feels like the whole room is present," he adds with some pride.

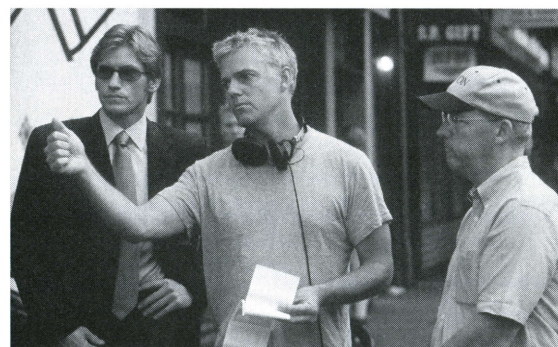
Thomas says that to realistically portray the feel of New York, the



production needs "to stay out of set-like situations. We want to let the room dictate how we shoot so that we have that claustrophobic, New York feel. We like having to shoot around obstacles and catch up with the actors." The cinematographer feels that if walls were removed to accommodate cameras and lighting, that feeling could be destroyed. "I don't want to see cops walking down a wide, well-lit hallway," he says.

The show's exteriors are often shot with little or no artificial lighting. "We light and we move," Gates states. "We don't want to stop traffic or clog the streets with an armada of trucks." Thomas concurs, noting that for a recent scene shot in Central Park, the lighting equipment consisted of just a bounce card.

"We're not taking the traditional approach to covering scenes," Thomas explains. "We're discovering the scenes with the cameras. We'll talk and have a rehearsal, and sometimes we'll just start shooting the rehearsal. We usually start to click on Take 3; the photography kind of evolves, the actors are going, and the



Top (from left): B-camera first assistant Brian Wengrofsky, B-camera operator Jim Denny, A-camera first assistant Phil Cohen and A-camera operator Peter Reniers shoot a New York street scene featuring actors Bill Nunn and Denis Leary for the series *The Job*. **Bottom:** Director Tucker Gates (center) goes over an upcoming shot with cinematographer John Thomas (right) and Leary, who is also an executive producer of the show.

operators get in the groove and see their opportunities."

Thomas sits by the two monitors with Gates as Reniers and Denny shoot; the operators often have to maneuver out of each other's way. "B has to yield to A," Thomas notes. "Jim will shoot the floor while Peter's crossing. Jim knows where to sit down on a box and find another character to cover."

The freedom granted by the

THE CINEMA OF ADVENTURE, ROMANCE & TERROR

Limited-Time
Special Book
Offer: \$19.95

True lovers of Hollywood's Golden Era will want to add this deluxe 298-page hardback edition to their permanent reference libraries. Written by a group of recognized film experts and assembled with consummate care by George E. Turner, one of Hollywood's foremost historians, this treatise offers in-depth coverage on 25 classic films. In addition to its insightful text, this coffee-table volume also features hundreds of rare production photos printed in high-quality duotone.



To order by phone:
(800) 448-0145 (U.S. only)
or (323) 969-4344
By fax: (323) 876-4973
On-line: www.cinematographer.com

approach can lead to ambitious setups. "We often have four-page scenes in the squad room, and we'll try to shoot them continuously even though we know they'll be cut," Thomas relates. "We choreograph the masters to get some sort of a structure. We use a video printer to remember the frame sizes and eyelines, but we're not afraid to cross the lines. Sometimes it's good storytelling when the eyelines don't match. Something about jumping the line can be kind of exhilarating."

Obviously, this technique grants the two camera operators a good bit of license. "They have a lot of creative input in the way scenes are covered," Thomas says. "In some ways, they're functioning like actors."

While Reniers and Denny control their own manual 7-63mm T2.6 and 11-165mm T2.5 zoom lenses, first assistants Phil Cohen and Brian Wengrofsky (A and B cameras, respectively) focus via radio remote controls. Reniers explains that they accomplish this by taking measurements, and he says they are quite good at it. Each of the two microphone boom operators has a monitor that takes the video-tap feed from his assigned camera hanging under his chin via custom-adapted holders. "That's the only way they can ever know where the frame line is," Reniers notes.

Thomas employs Kodak Vision 500T 7279 for night interiors and exteriors and Vision 200T 7274 for day exteriors; he normally overexposes the latter about two-thirds of a stop to obtain a rich negative. Because the show is broadcast in the 16x9 widescreen format on ABC affiliates that have an HDTV channel on the air, the show protects for the wider frame that they obtain using the Super 16 format.

The main source of light in the small squad room is a large, pyramid-shaped skylight, which is lit from above by 60 wide-flood Par cans set about six feet from the diffusion material that stands in for glass. According to Thomas, "We only have a partial dimmer system, so we're often turning off half the cans to help build some contrast."

The other practical sources in the

squad room and surrounding offices are ceiling-hung fluorescents corrected to about 2900°K. "We also have a mix of incandescent and fluorescent desk lamps and other practicals — I have no fear of mixed sources," Thomas asserts.

The bugaboo of this sort of run-and-gun approach and the practical-based lighting that accompanies it is, of course, a lack of contrast. Thomas says that he's concentrating on increasing the lighting ratios this season. "We can't set cutters and flags," he points out. "This year I'm doing more backlighting and trying to keep the walls dark and have strong highlights in the background. I want the operators to have something in every scene, perhaps a door covered with semi-gloss paint and lit with a small unit at a right angle, for a strong glare. I try to give them something to balance the frame compositionally." This objective often leads him to position a dark-skinned character near a bright window.

To help in the quest for contrast, Thomas took stills around the set under various lighting setups and grabbed frames from the show's first six episodes. He then compiled the stills into a "visual document" that serves as a key reference. To ensure that the images would accurately reflect the style he sought, "I took images I was most happy with and printed them carefully on premium papers." As production of this season's 13 episodes began, Thomas shared the book with Tucker, Reniers and Denny, "and we used it as a starting point in figuring out how to jazz things up a bit."

However, Thomas declares that his goal is not to institutionalize any one look for *The Job*. "I don't want to just find a look and stick with it," he says. "Gary Martone, our key grip, gets a chance to experiment. He comes up with ideas, like bouncing a light through the glass doors in the precinct house so the little highlights aren't the same day-in and day-out. We hope to keep going as one big experiment." ■

Eric Rudolph can be reached via e-mail at erudolph2@nyc.rr.com.

Books in Review

by Ray Zone

***The Moving Image:
The Journal of the
Association of Moving Image
Archivists***

Volume 1, No. 1, Spring 2001
Jan-Christopher Horak, Editor
University of Minnesota Press,
234 pp., \$15
ISBN 0-8166-3984-1

***Nitrate Won't Wait:
A History of Film Preservation
in the United States***

by Anthony Slide
McFarland Classics,
228 pp., \$24.95
ISBN 0-7864-0836-7

The Association of Moving Image Archivists (AMIA) was founded in 1991 as the world's largest professional association devoted to film, television, video and digital image preservation. The inaugural issue of AMIA's journal, *The Moving Image*, includes an eclectic collection of essays that brilliantly address specific preservation and restoration projects, the role of museums and archives in film history, and evolving technical practices within the field.

Written in a rigorous academic style, the articles are both specific and general, and constitute a kind of meta-history—a history of film history. As you peruse the journal, you might find it illuminating to cross-read Anthony Slide's *Nitrate Won't Wait*, recently reprinted as a McFarland Classic in paperback, which could become a standard in the nascent literature devoted to film preservation.

Appropriately, both publications begin with a consideration of the Museum of Modern Art (MoMA) in New York, which, under the aegis of Alfred Barr, established a film library on June 24, 1935, with a grant from the Rocke-

efeller Foundation. Haidee Wasson's essay in *The Moving Image*, "The Cinematic Subtext of the Modern Museum: Alfred H. Barr and MoMA's Film Archive," is a definitive history of the formation of that archive. The MoMA film library was the first established within such a cultural institution and was mandated "to make possible for the first time a comprehensive study of the film as a living art." The goals of the archive were "to trace, catalogue, assemble, preserve, exhibit and circulate to museums and colleges single films or programs of all types of films."

The second essay in the AMIA journal, Alison Trope's "Le Cinema Pour le Cinema: Making a Museum of the Moving Image," traces the evolution of film from a transient object to "a culturally prized artifact," and discusses the roles of collectors and cinephiles in pushing recognition for film within the context of traditional art museums.

The opening chapter of Slide's book, "Early Years and the Museum of Modern Art," makes a case for the importance of film preservation by recounting a scary history of fires and explosions that took place from the 1920s to the 1980s in nitrate film vaults around the United States. The Eastman Kodak Company first used cellulose nitrate, usually called nitrate film, in 1899 as roll film for motion pictures. It was replaced by acetate-based "safety film" around 1950. Although some nitrate film elements have lasted for decades, they can decompose rapidly and become highly flammable when they do.

One of the great film-preservation stories is that of the restoration of the Paper Print Collection in the Library of Congress. Kemp Niver, an ASC associate member, is generally acknowl-

NEW
ASC
CAP



Black cap with blue and silver logo. 100% chino twill. One size fits all.



Tan cap with red and silver logo. 100% chino twill. One size fits all.

\$15.00

plus shipping & handling
\$4 U.S./ \$1 each addl.
\$6 Foreign/\$5 each addl.

To Order Call
800.448.0145

♦
323.969.4333
or

**Visit the store
on the website.**

www.cinematographer.com

THE AC HAT



\$15.00

PLUS
SHIPPING & HANDLING
\$4 U.S. / \$1 EA. ADDL.
\$6 FOREIGN / \$5 EA. ADDL.

PLACE CINEMA HISTORY AT YOUR FINGERTIPS

Each 9½" x 4 ½" x 12" binder can hold up to 12 issues and has the AC and American Society of Cinematographers emblems printed in silver on its durable black covers.

Don't miss out on this incredible offer — order your AC binder today at the low price of \$15.00 each, plus S&H. (U.S. \$3 ea. \$1 ea. additional / FOREIGN \$5 ea. \$4 ea. additional.)



To order by phone:
(800) 448-0145 (u.s. only) • (323) 969-4344

Or fax: (323) 876-4973

Or visit our website:
www.cinematographer.com

edged as the man responsible for saving and transferring these very first motion pictures made in America back to motion-picture film. An entertaining essay in the AMIA journal, "Archives and Archivists Remade: The Paper Print Collection and *The Film of Her*" by Gabriel Paletz, recounts the convoluted history of this important preservation effort.

Paletz frames his essay by discussing *The Film of Her*, a 1999 12-minute short by Bill Morrison about an anonymous clerk at the Library of Congress who discovers the Paper Print Collection locked away in a vault. The clerk becomes infatuated with a character in a pornographic silent film called *The Film of Her*, which prompts him to restore the newly discovered collection before fading back into a bureaucratic anonymity. At the end of Morrison's film, the clerk watches an unnamed man receive an honorary Academy Award for rescuing the Paper Print Collection.

From 1894 to 1912, in order to copyright films, producers such as Thomas Edison printed the entire film on bromide paper as a series of photographs and deposited the entire roll of paper with the Library of Congress. It was actually a man named Howard Walls, a clerk in the Copyright Office, who rediscovered the Paper Print Collection in a library vault in 1942. Walls catalogued the prints, became curator of the library's new Motion Picture Division and, in collaboration with Carl Louis Gregory, an ASC associate member, began transferring the prints onto 35mm film. World War II soon disrupted these efforts.

When Congress canceled funding for the Motion Picture Division in 1947, Walls moved to Los Angeles to continue the recopying of the paper prints at the Academy of Motion Picture Arts and Sciences under executive secretary Margaret Herrick. After building a film collection for the Academy and fighting to keep the preservation project alive there, Walls was fired by Herrick in 1953. In Slide's book, we learn from Walls why this happened: "Margaret had me up in the library one of the first days I was

there... she was making a pass at me. This was the beginning of all the trouble."

Herrick subsequently hired Kemp Niver, who filmed the Paper Print Collection, published several books on the project (without mentioning Walls), and received accolades for his work. Walls was finally recognized for his efforts in moving-image archiving just last year, when AMIA presented him with a Silver Light Award.

Film Preservation: A Bibliography

Here are some other noteworthy books that deal with the subject of film preservation:

Houston, Penelope. *Keepers of the Frame, The Film Archives* (British Film Institute: London, 1994). This is an excellent history of film archives that has much information about film preservation in Great Britain and Europe.

Sargent, Ralph N. *Preserving the Moving Image* (Corporation for Public Broadcasting and the National Endowment for the Arts: Washington D.C., 1974). Out of print and difficult to find, this book is a landmark in the literature of film preservation and covers both motion-picture film and videotape.

Usai, Paolo Cherchi. *Silent Cinema, An Introduction*. Second Edition. (BFI Publishing: London, 2000). This is an indispensable volume by an expert in the field. (See Books in Review, AC June '01.) ■

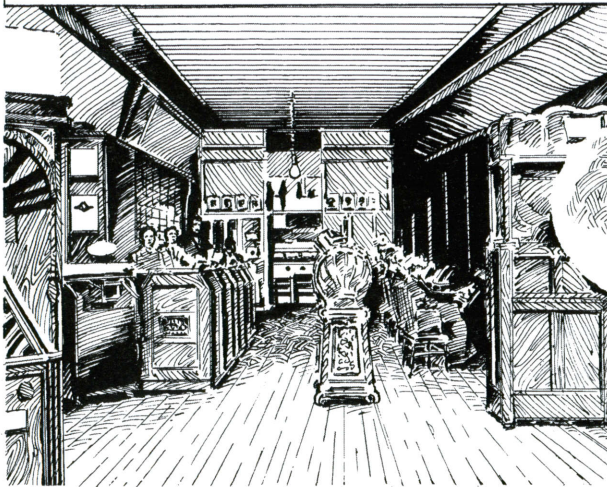
Books suitable for review should be sent to Ray Zone c/o the magazine's editorial department, located at:

American Cinematographer
1782 North Orange Drive
Hollywood, CA 90028.

FIRST FILMS IN LOS ANGELES

by Ray Zone & Chuck Roblin

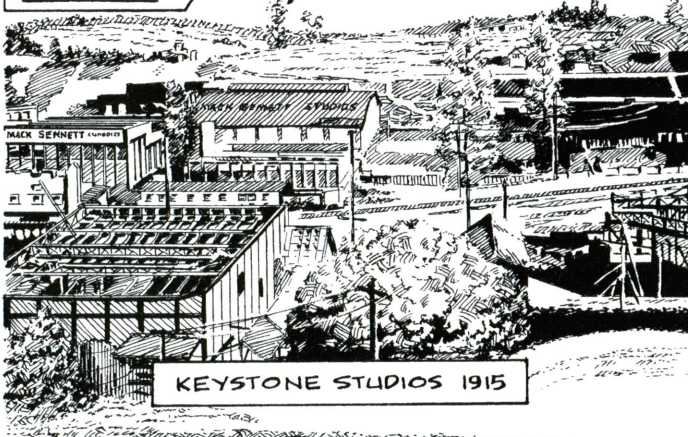
THOMAS TALLY'S PHONOGRAPH, KINETOSCOPE AND VITASCOPE PARLOR OPENED ON SPRING STREET IN LOS ANGELES IN 1897.



THE FIRST CALIFORNIA FEATURE FILM "THE COUNT OF MONTE CRISTO" STARRING HOBART BOSWORTH, WAS PRODUCED BY THE SELIG STUDIO IN 1908.

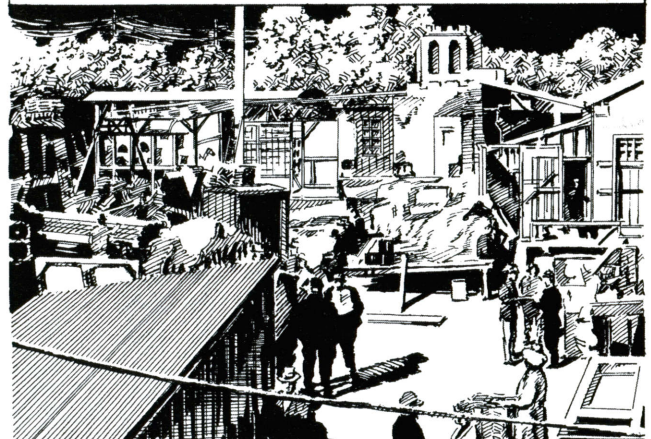


SELIG WAS THE FIRST STUDIO IN THE LOS ANGELES AREA. LOCATED AT EDENDALE, SELIG WAS LATER TAKEN OVER BY MACK SENNETT'S KEYSTONE STUDIOS.

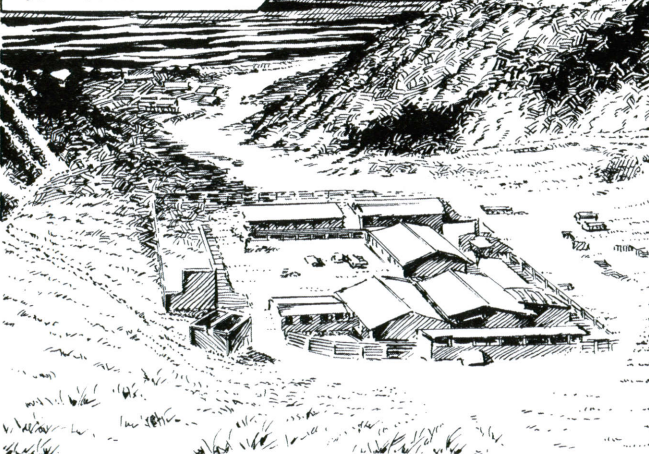


KEYSTONE STUDIOS 1915

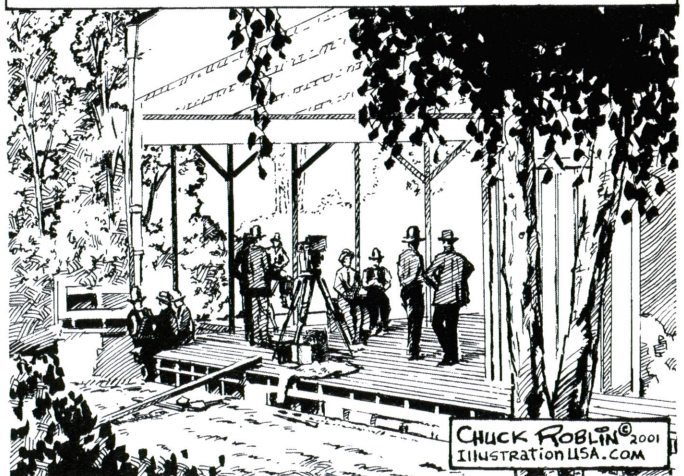
IN 1911 DAVID HORSLEY'S NESTOR COMPANY WAS THE FIRST STUDIO IN HOLLYWOOD. IT WAS LOCATED ON THE BACK LOT OF BLODEN'S TAVERN ON GOWER AND SUNSET.



THOMAS H. INCE SET UP HIS "INCEVILLE" STUDIO IN SANTA INEZ CANYON IN 1914. SUNSET BOULEVARD NOW JOINS THE SEA AT THIS SITE.



CECIL B. DE MILLE SET UP THE LASKY FEATURE PLAY CO. WITH AN OPEN AIR STAGE IN 1914 IN HOLLYWOOD.



CHUCK ROBLIN © 2001
ILLUSTRATIONUSA.COM

Next Month

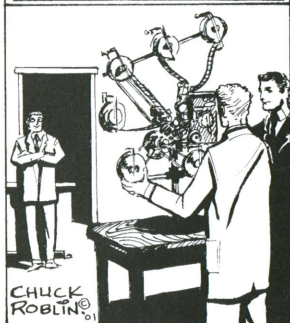
ON HIS WAY OUT WEST,
FRED BALSHOFER
STOPS OFF IN CHICAGO.



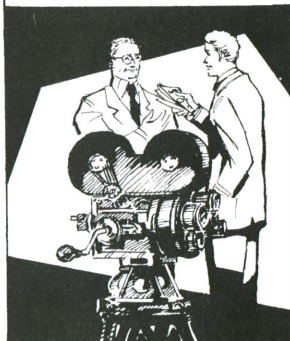
BALSHOFER VISITS
THE BELL & HOWELL
COMPANY.



BALSHOFER IS FASCI-
NATED BY THE NEW
CONTINUOUS PRINTER.



BALSHOFER BUYS A
BELL & HOWELL CAMERA.



Living Pictures

by
Ray Zone
&
Chuck Roblin

Classified Advertising

RATES

All classifications are **\$4.50 per word**. Words set in **bold face** or all capitals are **\$5.00 per word**. First word of ad and advertiser's name always set in capitals without extra charge. No agency commission or discounts on classified advertising. **PAYMENT MUST ACCOMPANY ORDER.** VISA and Mastercard accepted. Send ad to **Classified Advertising, American Cinematographer, P.O. Box 2230, Hollywood, CA 90078.** Or FAX (323) 876-4973. Deadline for payment and copy must be in the office by 1st of second month preceding publication. Subject matter is limited to items and services pertaining to filmmaking and video production. Words used are subject to magazine style abbreviation. **Minimum amount per ad: \$45**

CLASSIFIEDS ON-LINE

Ads may now also be placed in the on-line Classifieds at the ASC web site.

Internet ads are seen around the world at the same great rate as in print, or for slightly more you can appear both online and in print.

For more information please visit www.cinematographer.com/advertiser, or e-mail: classifieds@cinematographer.com.

EQUIPMENT FOR SALE

Mint used 16mm & 35mm cameras, lenses, accessories, support at great prices — call Gallus Productions, Inc. (310) 664-7032 or fax at (310) 664-7033.

SR HS 16/S16; SR-2 16/S16; SR-2 HS; SR-2; SR-1 16/S16; SR-1. Call (310) 664-7032 or fax (310) 664-7033.

Zeiss Zooms and Primes, Cooke, Canon, Angenieux, Schneider, Tegea, etc. Call (310) 664-7032 or fax (310) 664-7033.

Arri 2-C PL, 2-C, Arri S or SB, Arri 16-BL packages call (310) 664-7032 or fax (310) 664-7033.

Accessories, support, too many items to list. Call (310) 664-7032 or fax (310) 664-7033.

The Visual Products ads you see here are just a sample of the thousands of motion picture items we have available. All equipment comes with a money-back guarantee! Check out our newly updated complete list online at www.visualproducts.com or Call us at (440) 647-4999.

Arriflex SR-2 Camera Package: 10-100mm Zeiss, 2-400' Magazines, 2 Onboard Batteries, Charger, Arri Digi-Tac Speed Ctrl., Lt. Wt. Rods, Matte Box, 90mm Macro Kilar, Right-hand Grip and Extras, Overhauled with 6 month Warranty \$16,200.00. Visual Products, Inc. (440) 647-4999.

EQUIPMENT FOR SALE

Arriflex SR-1 Camera Packages: Zoom Lens, 2x400' Mags, 2 Onboard Batteries, Charger, Rt. Handgrip, case. From \$8,500.00. Visual Products, Inc. (440) 647-4999.

FOR QUALITY USED EQUIPMENT PLEASE VISIT OUR WEB SITE AT: WWW.WHITEHOUSEAV.COM OR CALL US AT (805) 498-4177.

FLY FIRST CLASS! www.SteadicamRentals.com (800) 790-2881, (818) 706-2908.

HUGE LIST OF USED EQUIPMENT ONLINE: www.visualproducts.com.

Zeiss Super Speed Sets: 9.5mm, 12mm, 16mm, 25mm T1.3 16mm Format — From \$5,500.00; 18mm, 25mm, 35mm, 50mm, 85mm T1.4 B-mount set \$12,000.00 Also Available with PL Hard Mounts. Visual Products, Inc. (440) 647-4999.

Large Dolly and Crane Selection: Fraser, Elemack/Movietech, Panther Elemack Cricket, Elemack Spyder, Tulip Crane, Cinejib, Jibs and more. Including remote camera cranes 25'+height. For details call Visual Products, Inc. (440) 647-4999.

ARRI SR-2, CCD video assist, 2x400' Magazines, 10-100mm T2 Zeiss, Matte Box, Rods, 90mm Macro Kilar, Rt. Handgrip, Arri Digital Speed control custom cases \$24,500.00. Visual Products, Inc. (440) 647-4999.

Arriflex SR-2 Super 16mm, Complete package w/lens & tap \$19,800.00. www.jimon.com, info@jimon.com, (818) 953-7254.

16mm & 35mm film cameras, best prices guaranteed. www.jimon.com, info@jimon.com, (818) 953-7254.

VISUAL PRODUCTS—LARGEST SELECTION OF USED MOTION PICTURE EQUIPMENT, AATON TO ZEISS. WARRANTY ON ALL EQUIPMENT. PH (440) 647-4999. OR FAX (440) 647-4998 OR VISIT OUR WEBSITE AT: www.visualproducts.com.

Mitchell S35R Camera Pkg. with magazines, orientable viewfinder, Fries motor, video tap and full set of Nikon, Hasselblad or Cooke lenses. Crystal sync up to 120fps. Super Clean. From \$15,000.00. Call Visual Products, Inc. for details (440) 647-4999.

New Video Tap for Arri 2-C Camera, Easy to install, no machining required. Adjustable iris and focus controls with color CCD camera \$3,500.00: With B&W CCD \$3,000.00. Call Visual Products, Inc. (440) 647-4999.

PL hard front mount for Arriflex 2-C camera, \$1,600.00 installed. Call Visual Products, Inc. (440) 647-4999.

Aaton LTR 54 in absolutely mint condition. DPs personal kit, never rented. LTR 54 Body, Zeiss MK2 10-100mm T2, Ang. 5.9mm, Option R Video Assist, built-in light meter, 3x400' magazines, custom cases, batteries just re-celled, too many extras to list. \$16,500.00. Call Jeff (801) 201-4880.

PRISTINE USED EQUIPMENT. PRO VIDEO & FILM EQUIPMENT COMPANY. (888) 869-9998, www.provideofilm.com.

HUGE LIST OF USED EQUIPMENT ONLINE: www.visualproducts.com.

EQUIPMENT FOR SALE

Panther Dolly, complete with accessories and Riding Super Jib. Excellent Condition \$22,000.00. Call Visual Products, Inc. (440) 647-4999.

Arri BL-4S Camera, 2x400', 2x1000' magazines, extension eyepiece, video assist, base plate, follow focus, 6x6 matte box, battery, set of Zeiss T1.3 primes, custom cases \$97,000.00. Call Visual Products, Inc. (440) 647-4999.

Arri SR-3 camera, 2x400' magazines, 2 onboard batteries, charger, right handgrip custom case \$54,000.00. Visual Products, Inc. (440) 647-4999.

Arri S16 SR-2 HS, SR-3 HS, CEI Video, Photosonics 400, Zeiss HS set, Canon/Optex 800mm, 400mm, 200mm, Macro, Jimmijib, Steadicam, Sony BVW400, VX1,000 DV UW, BVW35, DAT. Prices, photos, details: <http://naturestockshots.com/equipment.htm>. Phone: (719) 685-5060.

Detroit Power & Light, a Mole-Richardson Master Dealer. Used Mole and Arri fixtures, Matthews stands & expendables for sale. Visit www.rentlights.com or call (248) 476-3737.

VISUAL PRODUCTS-LARGEST SELECTION OF USED MOTION PICTURE EQUIPMENT, AATON TO ZEISS. WARRANTY ON ALL EQUIPMENT. PH (440) 647-4999. OR FAX (440) 647-4998 OR VISIT OUR WEBSITE AT: www.visualproducts.com.

Arriflex SR-2 Super 16, 2x400' magazines, 2 onboard batteries, right hand grip, Cinematography Electronics precision speed control, custom case \$23,000.00. Call Visual Products, Inc. (440) 647-4999.

Moviecam Super America Pkg: movieglow, digital readout, cod video assist, ext. eyepiece, 2x500' 2x1000' magazines, base plate, follow focus, 4x5.650 matte box, rt. handgrip, 2 24-Volt batteries custom cases \$58,000.00 with moviecam prime lens set \$68,000.00. Call Visual Products, Inc. (440) 647-4999.

Mobile custom crane - this modified Ford flatbed truck has a 2- person riding hydraulic crane with rotating turret, max lens height 15 feet, maximum reach 12'6", max lift 11'6" price reduced to only \$15,000.00. Visual Products, Inc. (440) 647-4999.

Film and Television Production equipment for sale. Please visit ProductionClassifieds.com for details.

USED EQUIPMENT FOR THE 21ST CENTURY. PRO VIDEO & FILM EQUIPMENT COMPANY. (888) 869-9998, providfilm@aol.com.

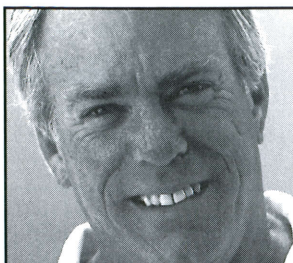
HUGE LIST OF USED EQUIPMENT ONLINE: www.visualproducts.com.

Arriflex 435ES camera package - 3x400' magazines, ext. eyepiece with leveler, color video assist, base plate, FF3, Zeiss T1.3 set, Microforce. Call for complete list Visual Products, Inc. (440) 647-4999.

Arri 535A camera package - 2x400', 2x1000' magazines, color video assist w/still store, 35mm base plate, follow focus, 24-volt battery w/charger \$121,000.00. Visual Products, Inc. (440) 647-4999.

Motion Control System - Mechanical Concepts Rig, 18' track, w/Kuper Controls and 11 Lynx drivers. Mitchell Mark II w/Friese Door and Lynx C-50 Motor. Many Extras. Will sell rig separately. E-mail: nogochi4u@juno.com.

Power Pods For Sale: 3 available, complete systems from \$15,000.00, diversity system and extras also available. Call Visual Products, Inc. (440) 647-4999.



"The buck stops here, with me."

Peter Anway,
Sales

...me and the 28 other professionals at the New Birns & Sawyer, that make up our internal team of industry experts. We design, manufacture, sell and most importantly, **stand behind** all our products. And we've been doing it for over 45 years.

These are just a few in our full line of breakthrough products. The New Birns & Sawyer, one of the largest and most innovative firms specializing in film and video equipment, is poised on the cutting edge for the future.



Professionals expect nothing less than pure B.S. Birns & Sawyer.

1026 North Highland Ave, Hollywood, CA 90038 . Phone (323) 466-8211, Fax (323) 466-7049

Web: www.birnsandsawyer.com . Email: info@birnsandsawyer.com

RECIPIENT



SHOOT IN CHILE NOW



AMERICA'S PREMIER BOLEX® DEALER
BOLEX SALES•SERVICE•PARTS
New and Selected Used
MOTION PICTURE EQUIPMENT
www.chamblesscinequip.com
CALL 9-12/1-5 M-TH EASTERN • FAX ANYTIME • OR E-MAIL ANYTIME
CHAMBLESS CINE EQUIPMENT
13368 CHATSWORTH HWY • ELLIJAY, GA 30540-0231 USA
T 706-636-5210 • F 5211 • E-MAIL: bolexcce@ellijay.com

EXPERT MOTION PICTURE CAMERA REPAIR and MODIFICATIONS

**Cinema Engineering Co. 7243 Atoll Ave.
Suite A, North Hollywood, CA 91605
(818) 765-5340 Since 1975 FAX (818) 765-5349**

16mm 35mm 65mm No job too big, no job too small 70mm Vista Vision

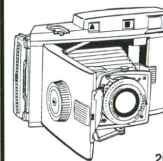
WWW.JBKCINEQUIPT.COM

TEL: (954) 922-6647

e-mail: jbkfilm@yahoo.com



PRECISION REPAIR & SERVICE OF
ARRI, C.P., MITCHELL & MOVIECAM CAMERAS



PROFESSIONAL POLAROID® CAMERAS FOR EXPOSURE AND LIGHTING EVALUATION

SOLD-SERVICED-MANUFACTURED
CALL FOR COMPLETE INFORMATION
800-468-3399 • 360-887-1555
FAX 360-887-1549

FOUR DESIGNS CO.

20615 NE 22nd AVE. RIDGEFIELD, WA 98642
*POLAROID is a registered trademark of the Polaroid Corp.



AC SKETCH
LOGO SHIRTS
[at: www.cinematographer.com](http://at:www.cinematographer.com)

PRECISION TRACK

www.barlux.com

MILLER

service centers



Expert care and repair of Miller tripods and fluid heads by factory-trained technicians. Warrantee and out of warrantee service available at both locations.

IN THE EAST

Miller Camera Support, LLC,
216 Little Falls Road
Cedar Grove NJ 07009
Phone: (973) 857 8300 Fax: (973) 857 8188
E-mail: mfhusa@aol.com

IN THE WEST

Transylvania Film/TV Ltd
121 N. Victory Blvd, Burbank, CA 91502
Phone: (818) 295 6972 Fax: (818) 295 6978
E-mail: drakula@neteze.com

www.millertripods.com

Super wide angle eyepiece

Developed by P+S Technik and Rodenstock

- Use with 35 BL Evolution Program
- Use with ARRI 35 BL and A35III cameras
- Especially suitable for Arriflex S16 SR I - II
- Cup connector is compatible with the Arriflex wide angle eyepiece
- Heated eyecup can work with 12 V as well as with 24



P+S TECHNIK® GmbH - Munich local contact

Tel. ++ 49 89 45 09 82 30
Fax ++ 49 89 45 09 82 40
E-mail: info@pstechnik.de
www.pstechnik.de

CAMWERKE Inc.
2003 Springcreek Circle
Upland - CA 91784 - USA
www.camwerke.com

Super Panther III



2nd hand fully maintained with guarantee
Incl. accessories
\$ 22.999,-

Tel: +49-89-613900-01
Fax: +49-89-6131000
rp@panther-gmbh.de
www.panther-gmbh.de

EQUIPMENT FOR SALE

Cinerama/Fries 300 fps High-Speed Reflex Camera. Pin-registered, Fries-motorized, spinning-mirror reflexed; Sony video tap. In-house camera, used sparingly. Only steady-tested since new shutter, spinning mirror installed. Steady to 270 fps, nearly steady 300 fps. Controller allows to-the-frame selectivity. Power supply, 100' cables. BNCr mount. Two 1,000' magazines. \$75,000.00. (310) 271-1236 edlund@cinenet.net.

VISUAL PRODUCTS-LARGEST SELECTION OF USED MOTION PICTURE EQUIPMENT, AATON TO ZEISS. WARRANTY ON ALL EQUIPMENT. PH (440) 647-4999. OR FAX (440) 647-4998 OR VISIT OUR WEBSITE AT: www.visualproducts.com.

PROFESSIONAL EQUIPMENT. ALL USED. ALL GUARANTEED. ALL THE TIME. PRO VIDEO & FILM CO. (888) 869-9998.

ARRI, AATON, ÉCLAIR, etc. NEW + USED EQUIPMENT EXCELLENT CONDITION! FACTORY SERVICED! <http://www.cordialfilm.de>. equipment@cordialfilm.de. Phone +49-89-336689. Fax +49-89-336685 (Germany). **INCREDIBLE LOW PRICES!**

OVER 4,000 ITEMS IN STOCK. PRO VIDEO & FILM EQUIPMENT. (888) 869-9998.

ARRI SR 16mm/Super 16mm HIGH-SPEED (new electronics), PL-mount, SR-3 film gate and ground glass, 2 magazines 400', vary speed (VSU), 2 onboard batteries (new cells), charger, handgrip, case, (Camera rebuilt and repainted in ARRI SR-3 design). Package Price: DEM 35,200.00. Phone +49-89-336689. Fax +49-89-336685 (Germany). equipment@cordialfilm.de. www.cordialfilm.de.

HUGE LIST OF USED EQUIPMENT ONLINE: www.visualproducts.com.

Zeiss Variable prime set - VPI, 16-30mm, VP2 29-60mm, VP3 55-105mm. All cased and in mint condition \$27,000.00. Call Visual Products, Inc. at (440) 647-4999.

WORLD'S LARGEST AND MOST RESPECTED USED EQUIPMENT DEALER. (888) 869-9998.

Filters, Filters, Filters - 6x6, 4x5.650, 4x4, 3x3, rounds, new and used. Call Visual Products, Inc. (440) 647-4999.

VISUAL PRODUCTS-LARGEST SELECTION OF USED MOTION PICTURE EQUIPMENT, AATON TO ZEISS. WARRANTY ON ALL EQUIPMENT. PH (440) 647-4999. OR FAX (440) 647-4998 OR VISIT OUR WEBSITE AT: www.visualproducts.com.

MITCHELL MARK II BNCr, Fries Video door, Sony Color Tap, Lynx C50 high-speed motor, Canon K35 25-120mm zoom, complete Super Baltar lenses, magazines, cases. Will consider camera trade for ARRI SR-2 or SR-3 package. **MOTION CONTROL PAN-TILT-ZOOM SYSTEM** - Mini-Worrell and custom roll head all with steppers including zoom and focus, Lynx 8-channel driver box, power supply, IBM laptop, Kuper and Lynx boards, software. Tel: (818) 636-6091 for e-mail pics.

37 YEARS EXPERIENCE, OVER 40,000 SATISFIED USED EQUIPMENT CUSTOMERS. CALL BILL REITER. PRO VIDEO & FILM CO. (888) 869-9998.

NIKKOR 300mm T2.0, Century conversion, Universal mount, PL mount, gears and case, \$13,000.00. **NIKKOR 200mm T2.0** conversion, \$3,500.00. **NIKKOR 600mm T4.0** conversion, \$3,500.00. (253) 884-2262.

EQUIPMENT FOR SALE

Steadicam - priced to move. Call Visual Products, Inc. (440) 647-4999.

AATON XTRprod pkg. D.P.'s personal camera. Fully loaded. Call for info. \$80,000.00. (516) 377-8835.

WHAT'S NEW IN USED EQUIPMENT? ASK: PRO VIDEO & FILM EQUIPMENT. (888) 869-9998. www.provideofilm.com.

WANTED

WANTED: Antique motion picture camera equipment. Call Jim at Visual Products, Inc. (440) 647-4999.

CASH FOR YOUR EQUIPMENT NOW! MOTION PICTURE EQUIPMENT 16MM OR 35MM WANTED: CAMERAS, LENSES, TRIPODS, DOLLIES, CRANES, LIGHTING, EDITING. VISUAL PRODUCTS, INC. PH (440) 647-4999 OR FAX LIST TO (440) 647-4998.

WANTED: STEADICAMS, CAMERAS, LENSES, TRIPODS, etc. for cash, consignment, or trade. Derrick, WHITEHOUSE A/V (805) 498-4177, FAX (805) 499-7947. DW@WHITEHOUSEAV.COM.

WANTED: CAMERAS 35MM & 16MM, SOUND EQUIPMENT, FLUID HEADS, LIGHTING, ETC. Best cash prices paid. Consignment also available. Contact Pete Anway, BIRNS & SAWYER, INC. 1026 N. Highland Ave., Hollywood CA 90038, (323) 466-8211.

SERVICES AVAILABLE

STEVE FIELD STEADICAM. EMMY WINNING STEADICAM OPERATOR. FILM/VIDEO. BETACAM SP PACKAGE. steadipov@aol.com (310) 288-3601.

QUALITY CAMERA SERVICE: Complete repair & machine shop, parts dept., & top experienced technicians are available at Birns & Sawyer, Inc., to service your camera, lenses, tripods & related equipment. Send in your equipment for an estimate to our Service Dept. (323) 466-8211. Peter Anway, BIRNS & SAWYER, INC., 1026 N. Highland Ave., Hollywood, CA 90038.

Time-lapse cameras that move! Pans tilts tracks zooms, showreel LA (323) 874-5074, London (208) 802-8791, www.time-lapse.co.uk.

REPRESENTING THE WORLD'S LARGEST INVENTORY OF PRE-OWNED PROFESSIONAL CINEMA AND VIDEO EQUIPMENT. Cameras, lenses, tripods, cranes, dollies, cinema vehicles. Web site <http://www.cineused.com>. Phone (949) 375-0526, Fax (949) 721-1910, The Power Broker. USA.

STEADICAM ARM, QUALITY SERVICE OVERHAUL AND UPDATES. QUICK TURN AROUND. ROBERT LUNA (323) 938-5659.

VISTAVISION reflex camera 0-36 fps. Xtal. Rock Steady, Nikon lenses 20mm through 135mm, Vid/Finder. Used recently on "The Body" for BBC. **CINERAMA/FRIES** reflex H-Speed 275 fps. Camera BNC mount. Cooke 20-100mm zoom, Vid/Finder. **Worldwide service available.** Hire plus techs. If required. Excellent rates. Contact London Equipment Co. **Aerocrane** equipment also available. +44 (0) 208 838 6662. Email: Tonycovell@dial.pipex.com.

Crystal Digital Images. We design Web sites for the entertainment industry! Streaming media, flash, sharp graphics! Visit www.crystaldi.com or call Jim at (714) 624-6737.

MISCELLANEOUS

Twin Rivers Media Festival, deadline for media entry - Dec. 13, 2001, deadline for script entry - Feb. 20, 2002, www.twinriversmediafestival.com.

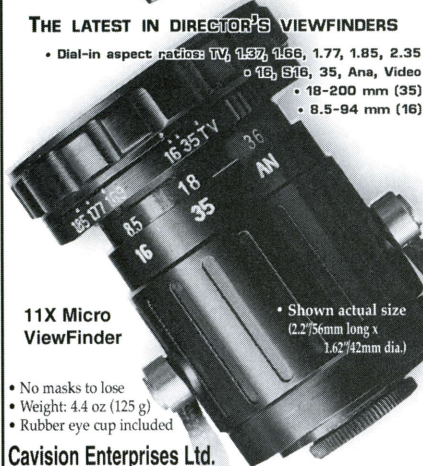
Highly Affordable!



- 4X4 & 3X3 Matte Boxes
- For 2/3" to Mini DV camcorders
- 100-52mm rings to fit most lenses
- 2 trays adjust vertically, 1 also rotates
- Rods supporting system for 4X4
- Mounting plate for Sony, JVC, Panasonic & Canon
- Hard or bellows shade for 4X4
- Removable flag & handgrip available
- Rectangular or round hoods for 3X3

THE LATEST IN DIRECTOR'S VIEWFINDERS

- Dial-in aspect ratios: TV, 1.57, 1.66, 1.77, 1.85, 2.35
- 16, 316, 35, Ana, Video
- 18-200 mm (35)
- 8.5-94 mm (16)



11X Micro ViewFinder

• Shown actual size
(2.2" x 56mm long x
1.62" x 42mm dia.)

- No masks to lose
- Weight: 4.4 oz (125 g)
- Rubber eye cup included

Cavision Enterprises Ltd.

708-1155 West Pender Street
Vancouver, B.C. Canada V6E 2P4
Fax: 604-605-7001 E-mail: sales@cavision.com

604-605-7015

www.cavision.com



SUNPATH

Sun Tracking Software
39,000 Locations World Wide
Suunto Compasses & Clinometers

WIDE SCREEN SOFTWARE
818-764-3639

www.wide-screen.com

INTERVALOMETERS - SYNC

Time Lapse/single-frame for Bolex, K-3 (from \$395)
also Eyemo (from \$895), Arri S and Arri II. Sync motors
for Bolex, Eyemo, more.

1-888-333-1666

www.ncspro.com

NCS Products NEW YORK 718-969-0565 info@ncspro.com

Protective Carrying Cases

portabrace.com

YOUR BEST VALUE

film Emporium

24 HR. SERVICE

24 Hr Purchase & Sales Centre - Raw Stock, Video & Audio

800/371-2555

KODAK RAW STOCK PRODUCTION INSURANCE

www.filmemporium.com

www.tkl.de

MILO Motion Control
in Germany and Europe

TKL THE MOTION CONTROL FACTORY.
THOMAS & KNUST LANGE OHG
TEL. +49.4552.1008



STORM CHASER!

WARREN FAIDLEY

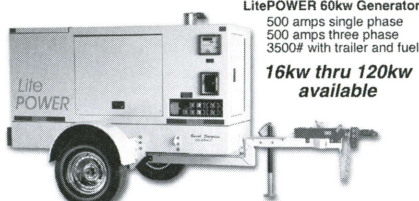
BEST SELLING AUTHOR AND AWARD
WINNING PHOTOGRAPHER

STOCK FOOTAGE - PHOTOGRAPHS
PRODUCT ENDORSEMENTS

520 751-9964

STORMCHASER.COM

LitePOWER Movie Quiet Generators



LitePOWER 60kw Generator

500 amps single phase
500 amps three phase
3500# with trailer and fuel

16kw thru 120kw
available

Burrell Enterprises, Inc.

www.litepower.com

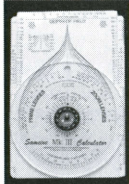
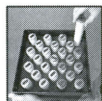
toll free: 866-474-8111



THE STORAGE SOLUTION
FOR KING FLO® BULBS

Location Lighting Ltd

phone: 215.576.5600
mail@locationlighting.com
www.locationlighting.com



The New SamCine MKIII Calculator

\$145.00 including direct
courier delivery

OpTex

Tel: +44 208 441 2199
Fax: +44 208 449 3646
e-mail: sales@optextint.com

ENG/EFP Gear

prosourceBMI.com

Cases 4 Less.com

CLICK HERE

Produce Video...
Make Money...
From Your Home...
Home Video Studio, Inc.
We Turn Video Into Gold!

800-464-8220
www.homevideostudio.com

4 WEEKS FREE

Your best source for the
industry news you need
to know...



Call Toll Free 866-525-2150

Please mention American Cinematographer when you order.

RIP-TIE®
Velcro® Cable Wraps

Locks onto Cord

The Rip-Tie Co. 800-348-7600
P.O. Box 77394 San Francisco, CA 94107

Filmtools

Outfitters for Professional Image Makers
www.filmtools.com

1930 W Olive Ave Burbank CA 91506
818.845.8066 888.807.1900
TOLL FREE OUTSIDE CA

SOUNDS GREAT

The most popular audio adapter for
DV camcorders - Ideal for the Sony
VX2000



Compact
professional audio
adapter for digital video
camcorders - record like a "pro" simply by
adding this cost-effective device! The original
mini-solution for high quality sound and control.

To find out more about equipment compatibility, prices and
availability, call or visit our web site today for the dealer nearest you.

BeachTek
The Quiet Connection
(416) 690-9457 • www.beachtek.com

**CAMERA RENTALS
IN THE HEART OF
SAN FRANCISCO**

Ready to outfit your next
production—big or small.

Cameras
LEE UTTERBACH
Ph415-553-7700
www.lucamera.com

**THE PRETTIEST PICTURES
LIBRARY**

Incredible Aerials
Nature Scenes
The Himalaya • Caves
Palau • The Bahamas
Hawaii • Tahiti
Dolphins • Waves
Sunsets & Clouds
Seagulls/Birds
National Parks
Underwater
Hangliding • Soaring
Statue of Liberty
Surfing & Sailing
Cities
Ballooning
Skateboarding
Dunebugging
Skiing

An incredible collection of original
cinematography available in multi-
formats, cleared for your use.

**MACGILLIVRAY
FREEMAN**
AERIAL & ACTION SPORTS LIBRARY
BOX 205 LAGUNA BEACH, CA 92652
RING 949/494-1055 FAX 949/494-2079

URC
universal Remote Control

P+S TECHNIK®

- Powerful, universal remote control for Arriflex movie cameras
- Supports all ARRIFLEX-cameras with parallel (11 pin) connector and 535/435 cameras with serial (8 pin) connector.
- Graphic LC-Display (four lines)
- All speeds are quartz stabilized
- Up to eight ramps can be programmed
- And much more ...



P+S TECHNIK® GmbH · Munich local contact
Tel. ++ 49 89 45 09 82 30
Fax ++ 49 89 45 09 82 40
E-mail: info@pstechnik.de
www.pstechnik.de

CAMWERKE Inc.
2003 Springcreek Circle
Upland · CA 91784 · USA
www.camwerke.com

Advertiser's Index

- AAS 129
Academy of Art College 43
AC 11, 16, 45, 48, 63, 110,
116, 120, 121, 122, 124,
125, 126, 129, 133
AMIA 109
Angenieux 17
Arriflex C3
- Backstage Equipment, Inc. 14
Band Pro Film/Video 65
Barlux Nederland BV 129
BeachTek International 131
Benjamin Centoducati 133
Birns & Sawyer 77, 129
Burrell Enterprises, Inc. 131
- Camera Corner Company
Limited 19
Cameralmage 41
Canon Broadcast 13
Canon Video 22-23
Cases4less.com 131
Cavision 131
Century Precision Optics 29
Chambless Productions 129
Cine Materiales 133
Cinekinetic 20
Cinema Engineering
Company 129
Cinematography Electronics 6
Cinequipt 114
Cinetech 107
Clairmont 8-9
Cooke 119
Coptervision 80
Creative Planet 59
- Denecke 18
Doggicam 72
- Eastman Kodak C2-1, 2, 101
- Film Emporium, Inc. 131
Filmtools 131
Flying-Cam, Inc. 49
Focal Press 53
Foto-Kem 69
Four Designs 129
Fuji Motion Picture 25
Full Sail 7
- Glidecam Industries 6
- Hawke 32-33
Hines Lab 133
Hollywood Reporter, The 131
Hollywood Vaults 93
Home Video Studio 131
Hot Gears 46
Hydroflex, Inc. 20
- International Film & Television
Workshop 116
- JBK Cinequipt 129
- K & H Products 12, 131
K 5600, Inc. 64
Kino Flo 73
- Lee Utterbach 132
Lightline Electronics 83
Lightning Strikes 61
Location Lighting 131
London Film School 49
Long Valley Equipment 71
Los Angeles Film School 4
- Macgillivray-Freeman Film 132
Marell Electronics Systems Ltd.
61
Matthews Studio Equipment
28
Miller Camera Support, LLC
130
Miller Fluid Heads Australia 15
Mole-Richardson Company 81
Moviola 133
Musco Mobile 79
- Nalpak, Inc. 29
NCS Products 131
Nebraska Film Office 47
Nettman Systems
International 30
New York Film Academy 21
New York University 10
- Optex International 131
Optex 18, 79, 109, 114
- P+S Technik 83, 130, 132
- P.E.D. Denz 31
Panther 113, 130
Prosource 131
- Rip-Tie Company 131
- Salamati Productions 46
Shooting in the Philippines
133
Siamlite Film Service 19
SL Cine, Inc. 133
Sony Broadcast & Professional
Company 27
Sony Pictures HD Center 5
Stanton Video Services 71
Ste-Man 14
Ste-Man/Horizon 133
- Thomson Multi Media 39
Tiffen C4
TKL The Motion Picture
Factory 131
Transvideo International 115
- Universal Pictures Studios 89
- Vancouver Film School 93
Varizoom Lenses Controls
133
Visual Products, Inc. 133
- Weatherstock 131
Whitehouse Audio Visual 133
Wide Screen Software 131
Willy's Widgets 133
- YCM Laboratories 105
- ZGC, Inc. 18, 32-33, 79, 109,
114, 119

CHANNEL DOLLY KIT

\$795.00

(480) 945-6428

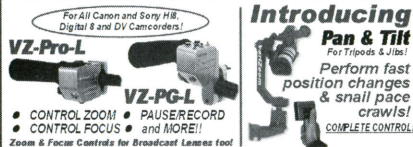
WILLY'S WIDGETS

4531 N. 87th Place
Scottsdale, AZ 85251



For Catalog send
2 First Class Stamps

Control Any Camera! VariZoom Lens Controls



Introducing Pan & Tilt
For Tripods & Jibs!
Perform fast
position changes &
small pace
crawl!
COMPLETE CONTROL!

The Ultimate On-Camera Monitor Packages!
✓ 5.8" TFT Color Monitor ✓ AC Adaptor
✓ Rechargeable Battery ✓ A/V Cables
✓ Battery Charger ✓ & Custom Case!
Studio Set-Up!
Get a VariZoom
Controller with
your TFT Monitor
Package for the
Ultimate
Camera
Set-Up!

Popular Accessories
Custom
Sun Hood
Swivel Shoe
Camera Mount

Who Uses VariZoom? • National Geographic • Nickelodeon
• CNN • ABC • TNT • Discovery Channel
why? Professional Results with mini-DV Cameras!
1-888-826-3399 www.varizoom.com

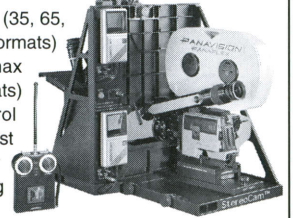
DIGITAL VIDEO CAMERA RENTALS

- Sony PD-150
- JVC GY-DV500U
- Canon XL-1
- Sound and Lighting Packages
- Major Credit Cards Accepted
- Shipping Worldwide

moviola
Digital Video Specialists
1-800-468-3107

HinesLab dual-camera 3-D STATE OF THE ART 3-D
when your image is important.
3-D depth and off-screen position are adjustable during the shot.
rental equip.

- StereoCam™ (35, 65, NTSC, & HD formats)
- BiClops™ (Imax & Iwerks formats)
- Remote Control
- 3-D Video Assist
- 3-D Calculator
- 3-D Consulting



ph. 818-507-5812 www.hineslab.com

HORIZON OPTICS

A Division of Ste-Man, Inc.

Optical Service
Custom Design • Motion Picture
Video • High Definition

Service available for any lens including:
Angenieux, Cooke, Zeiss, Century,
Canon, Fujinon
Over 50 Years Combined Experience in Optics

Tel. 805.520.1275 Fax 805.520.7342
email: stemaninc@aol.com

SALES SERVICE RENTAL

New & Used Film & Video Equipment

Dealers for:

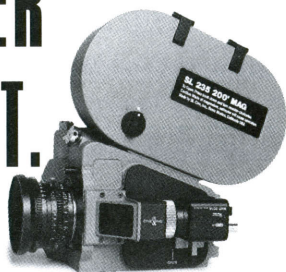
- Cinema Products ■ Century Precision
- Miller ■ Comprehensive ■ Lowell
- O'Connor ■ The Film Group & more.

WHITEHOUSE AUDIO VISUAL

2696 Lavery Court #8 Newbury Park CA 91320
Ph: 805-498-4177 ■ Fax: 805-499-7947



SUPER LIGHT.



Cameras & Mags featuring the new SL35-2 camera.
This 5.5 pound camera includes a video door & a
choice of PL or Panavision mount.



CINE SL INC.

Tel.: 323.733.7088
Fax: 323.733.1462
www.slinc.com / slinc@aol.com



BENJAMIN CENTODUCATI

Assistant - Cameraman

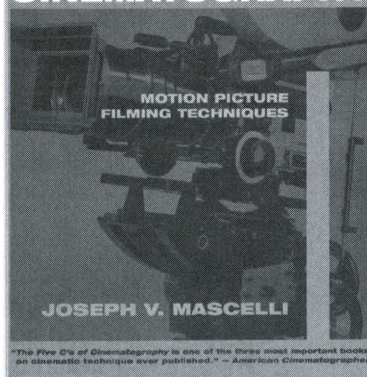
Benjamin is truly a professional and fun to work with,
as we did on, "There's Something About Mary."

Mark Irwin ASC/CSC
Director of Photography

866 - 4 Top Cam
866 - 486-7226

818-359-4841

THE FIVE C'S OF CINEMATOGRAPHY



\$29.95

(800) 448-0145

WWW.CINEMATOGRAPHER.COM



Visual Products

Ph 440-647-4999 Fx 440-647-4998
www.visualproducts.com

16mm & 35mm Formats

CAMERAS • LENSES • SUPPORT • EDITING

USED MOTION PICTURE EQUIPMENT

VENEZUELA

FILM & VIDEO

GEAR ~ SERVICES
LOCATIONS ~ CREW

+1 305 887 3710

www.filmvenezuela.com

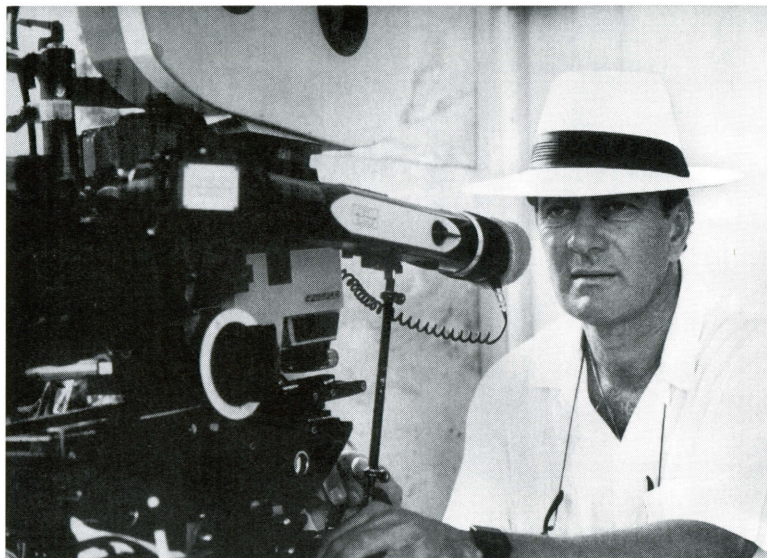
Shoot
Philippines



Filmmakers' Forum

City Lights: The Influence of Owen Roizman, ASC

by Richard Crudo, ASC



As I sit down to write this, I'm pleased that we're about to enter the holiday season, the season of light — the only time of year when most people take a moment to notice what cinematographers are innately aware of. I also find it invigorating, because the arrival of Thanksgiving signals a greater sensitivity to what's happening around us. There's a powerful force at play, one that's never commented on in our culture, probably because it's so easily taken for granted. It is the ability of light to serve as catalyst for a great deal of the emotion swirling inside of us.

Next month, Owen Roizman, ASC will be given the Golden Frog for Lifetime Achievement at the Camerimage Festival in Turin, Poland. It's just the latest in a continuing list of honors for Roizman, who has also received the ASC's Lifetime Achievement Award. Only the rarest of individuals have earned these distinctions, each having shown extraordinary taste and artistry amid the challenges of long careers.

My respect for all of these

talented individuals is enormous, but to me, Owen's efforts stand out from the rest. In countless instances, his work goes beyond the superficial influence of one cinematographer upon another and reaches as deeply into my heart as it does my own history. Most of us can make similar claims about any number of artists. What places Owen in a class by himself is that his lighting cemented a variety of impressions for me even before I was old enough to understand completely what he had done.

Cinematographers speak directly to their audiences, perhaps more so than anyone else associated with a production. The notion that their work can be a lasting touchstone is more common than it might first appear. It makes sense. Without this contribution, there wouldn't be any movies at all — a claim unique among all filmmaking crafts, directing included. Though every film is indeed a sum of many parts, whatever we reference after a viewing is based mainly on visual recall. Whether we laughed or were frightened, our recollections are

almost always drawn from what we saw. Of course, this takes into account such factors as production design and art direction, but it's the lighting that brings those elements to life.

The closest comparison is found in music. Think back to any song that has held its significance over the years. The facility music has to recall a specific time or place with such vivid detail — sort of an audio *déjà vu* — is precisely what is enabled when we're fully engaged in watching a film. In this case, rather than connecting with tone or melody, we make the images our own. The communicating properties of movie lighting differ from those of music only in the way they convey information. What causes either one to resonate is part of the magic all great artists possess.

Certainly, Owen is one of them.

I could cite chapter and verse from any of his movies, but my favorite is *The French Connection* (1971). I saw it during its initial run when I was 14 and immediately knew there was more to it than anything to which I had previously been exposed. What's remarkable is that this epiphany was wholly provoked by the way Owen used light. The fact that I grew up in New York City may have played some role, but it wasn't about recognizing the faces and places of a New York-based shoot. It was about seeing these familiar things in a form that was stylized through another person's eyes. For the first time I became conscious of how measured shifts in lighting could create mood, independent of plot or an actor's expression.

I also noticed the film's texture, which was totally out of step with the usual studio fare. Owen's approach was brutal in this aspect, and relentlessly true to the material. He gave the film a gritty

consistency, a sort of tactile sensibility in which you could almost feel and smell what you were seeing. I found it similar to the British "Kitchen Sink" movement of the early Sixties, whose films I had taken an innocent shine to after seeing them on public television. In the pre-multiplex days of *The French Connection*, though, Owen's efforts were writ large, and I've never forgotten them. I look back now and see that the seeds of a future cinematographer were planted when I realized that none of what he put on the screen got there by accident.

Since then, I've seen *The French Connection* more times than I can count. To this day, a glance at any frame stirs up a lifetime's worth of feelings; I often call on them for ideas and inspiration, regardless of what I'm shooting. This isn't to say I've ever shot a romantic comedy like a crime drama. Instead, this form of reverence, which cinematographers often pay one another, is expressed through association. It happens frequently and once again points to the extremely intimate nature of what we do. We can't help but be influenced by the people who affect us most profoundly. Owen drew on his own experiences and creativity in lighting the film. I took that as a young teenager and personalized it, unknowingly at first. Years later, I can't even guess at how many subtle ways that his influence has expressed itself in my own work. I do know that I've made Owen's impressions my own.

In the wonderful book *The Beauty of Light* (Wiley & Sons, 1988), author Ben Bova states that great artists "do our looking for us. They perceive unities and beauties that we miss. Their talented eyes and minds see the world in better detail than most of us do, and their trained hands reproduce a kind of beauty that we would never have noticed." What better description could be offered in regard to one of our most gifted cinematographers?

Owen Roizman, ASC is privileged to look at light in a way no one else does, and his career proves that he's seen it in a way that no one else could.

Congratulations, Owen. ■

SEPTEMBER 11, 2001



WRAP SHOT

Biograph cameramen stand ready to shoot the Jeffries-Sharkey fight on November 3, 1899, at the Coney Island Sporting Club. From left to right are Frederick S. Armitage, G.W. Bitzer, Arthur Marvin and Wallace McCutcheon. Harry Marvin is in the foreground to the left.



Boxing films helped to launch cinema. One of the most successful early fight pictures captured the Jim Jeffries-Tom Sharkey fight, a grueling 25-round bout that took place on November 3, 1899 at the Coney Island Sporting Club. The Biograph production team, which included Billy Bitzer, D.W. Griffith's future ace cameraman, built a special platform from which they could film the event with large-format 70mm cameras. Some 350 miniature arc lights were hung to illuminate the nighttime scene, and the 10,050 spectators were not allowed to smoke so that the photography would be sharp.

Three weeks later, the Biograph program of the fight opened in New York, with each round of boxing alternating with a vaudeville act. Six different companies toured on the road with the Jeffries-Sharkey program for almost a year after the event.

When the very first films were shot in the "Black Maria" at Edison's laboratories in West Orange, New Jersey, boxing was one of the subjects; it was kinetic and exciting and could be enacted in a small space. On September 8, 1894, "Gentleman Jim" Corbett and Jim Fitzsimmons fought six rounds, each lasting about a minute—a perfect length for the amount of film that could be loaded in

the large kinetograph camera.

Boxing footage was viewed at first in the "peep box" of the kinetoscope, and it drew considerable attention to this new entertainment device. Corbett also squared off with Peter Courtney in the Black Maria, and that footage subsequently appeared on the program at Koster and Bial's in New York on April 23, 1896, when the first motion pictures were projected onscreen in America.

In the 1890s, prizefighting was technically illegal in the United States despite its passionate following among sporting males. Religious groups frowned upon the brutality of the sport and its "bestiality." But under the guise of "boxing exhibitions," these "performances" continued and eventually proved quite popular as filmed entertainment. Because boxing films were only a representation of the sport, they circumvented laws against actual matches and were able to play in states with laws that banned boxing.

The first big boxing film was the Jim Corbett-Bob Fitzsimmons fight, shot on March 17, 1897 in Carson City, Nevada. The camera was Enoch Rector's "Veriscope," made especially for the event and carrying film that was 2 3/16" wide. Rector used three cameras at ring-

side and exposed 11,000' of negative film — at the time, the world's record for photographing a single event.

Filming was an important factor in negotiations for the match. Fitzsimmons and Corbett fought for a \$10,000 purse and also received 15 percent each out of the profits from film exhibition. *The Boston Herald* declared in a front-page headline that "The Kinetoscope Will Dominate Wholly the Arrangements for the Holding of the Battle," and the night before the fight, the 24-square-foot ring was cut down to 22' so the cameras could capture all of the action.

The Corbett-Fitzsimmons Fight, released by the Veriscope Company, debuted on May 22, 1897 in New York, and the screening was packed. Audiences formed a cross-section of the population and included members of the "fairer sex." For the first time, women could see a part of the male world from which they had formerly been excluded.

The film's popularity, however, led to competitive piracy. Philadelphia film producer Sigmund Lubin opened his *Reproduction of the Corbett-Fitzsimmons Fight* a week before the Veriscope premiere and sent exhibition units around the country with it. Lubin's version proved fake, however, and audiences demanded their money back.

Though promoter William Brady and Biograph paid \$100,000 for film rights to the Jeffries-Sharkey match at the Coney Island Club, piracy plagued the event. Albert Smith, in his 1952 autobiography *Two Reels and a Crank*, relates how he surreptitiously filmed the match with a hidden camera under the watchful eyes of a dozen Pinkerton detectives. A story in the New York Evening Telegram three days after the event noted that the piracy created a "possibility of another contest between the fight-picture promoters, alongside of which the tapping match Friday will be a love feast."

— Ray Zone



THE CLOSER YOU GET THE BETTER WE LOOK.

NEW CARL ZEISS/ARRIFLEX
ULTRA PRIME LENSES

New lenses. Carl Zeiss/Arriflex Ultra Primes.

Carl Zeiss, the most respected name in optics has designed a new series of prime lenses exclusively for ARRI. Twelve new lenses in all, ranging from 10mm to 135mm, all T1.9.

Get closer. Carry less. All modern motion picture lenses are optimized from infinity to medium distances. It's easier to correct optical aberrations in that range. Ultra Primes are fully corrected throughout their range, from infinity to minimum focus.

They utilize aspheric elements and specially designed floating element groups to maintain distortion free, high resolution performance right down to the closest focus settings. One lens set. No need to carry separate special close focus lenses.

Small Packages. Large scales. Innovative design and true internal focus keeps this high performance lens design compact and lightweight. Expanded focus scales are uniform from lens to lens in position and size. Numbers are easy to read, focus is precise, and there is still only one index mark.

Superior color matching. T* Coatings. New multiple layer anti-reflex coatings give all lenses in the set precise color characteristics and minimize internal flare and ghosting.

**THE NEW CARL ZEISS/ARRIFLEX ULTRA PRIMES.
TAKE A CLOSER LOOK.**

ARRI 

TIFFEN BLACK DIFFUSION FX 5 USA

The Camera never Lies.

Only Tiffen.

- Winner, 2 Academy Awards® for technical achievement.
- Winner, 1998 Primetime Emmy Award for engineering excellence.
- Exclusive ColorCore™ Precision Filter Process guarantees industry-standard consistency.
- Unmatched 10-year filter warranty.



(But we can help you soften the truth.)

And that's exactly what Tiffen Diffusion/FX® Filters allow you to do. The unique optical construction of the Diffusion/FX®—our most technologically advanced diffusion filter ever—delivers extraordinary clarity of image. The Black Diffusion/FX® smoothes and softens facial imperfections with almost no highlight flare, yet it has an almost magical ability to diminish fine, unwanted details. Equally subtle, our Gold Diffusion/FX® infuses images with a warm golden tint that produces exceptional skin tones.

Each creates an effect of unfiltered clarity so subtle and effective that viewers can't tell a filter is being used. And both come in six closely graded diffusion levels to give you maximum flexibility. For more information, see your Tiffen dealer or call us at 1-800-645-2522. Tiffen: Making the truth what you want it to be.



www.tiffen.com

The Tiffen Company • 90 Oser Avenue • Hauppauge, NY 11788 • 1-800-645-2522